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THE PANAMA CANAL, CROSSROADS OF THE WORLD...

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THE PANAMA CANAL REVIEW

SPECIAL 55TH ANNIVERSARY ISSUE - AUGUST 15, 1914 - 1969

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TWO ANNIVERSARIES of profound significance, separated by the centuries but closely linked in history, are commemorated today on the Isthmus of Panama. Both serve to remind us of the privileged position of this land in which we work and live.

The Panama Canal enterprise is 55 years old today. More than a great engineering accomplishment, it is a monument to the peaceful endeavors of man throughout time. Two countries, Panama and the United States, made it possible. Men of diverse nationalities built it. Many nations of the world depend upon it to speed their commerce between the oceans.

The City of Panama is 450 years old today. Founded less than 3 decades after the discovery of the New World, it has ever symbolized the crossroads of the world. The Panama Canal has helped preserve for it that historical role.

The record of both has been one of progress. The activity of the Panama Canal has grown beyond all expectations. Year in and year out, it has been setting records in moving ships through the waterway, both in number and in tonnage. Today it is more efficient and in better condition than when it first opened. In 1969, the City of Panama is one of the flourishing capitals in the Western Hemisphere and its future holds the promise of still faster and larger growth.

Panamanians and U.S. citizens have contributed to the growth of one and the other.

It is fitting that THE PANAMA CANAL REVIEW should devote this issue to bringing to its readers some of the highlights of these two anniversaries. Its pages will reflect, I trust, the pride all of us feel at the accomplishments of the citizens of our two countries working together on a vital international utility serving the world's commerce and living together in a great city.

W. P. LEBER,
Governor.

W. P. Leber, Governor-President

R. S. Hartline, Lieutenant-Governor

Frank A. Baldwin
Panama Canal Information Officer

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Our Cover

INTERNATIONAL SHIPPING routes used by merchant ships which move everything from sardines to kitchen sinks to the four corners of the earth fan out from the Panama Canal. Our cover for this 55th anniversary issue shows these ocean highways and how they converge on the narrow isthmus of Panama. On August 15, 1914, 55 years ago, the SS *Ancon* made the first ocean-to-ocean trip through the Canal. The *Ancon* carried approximately 200 persons including Panama President Belisario Porras and his cabinet and other Panama Government officials, members of the diplomatic corps and resident consuls-general, U.S. military officers and officials of the Panama Canal. The following day, Sunday, August 16, seven U.S.-flag merchant ship and one pleasure craft out of New York moved through the Canal. Thus began the pattern of routes displayed on the cover. Since the *Ancon's* passage, nearly 420,000 ships from virtually every nation in the world have made the 50-mile crossing.

This special issue features another important date, the 450th anniversary of the City of Panama. It shows how the Canal affects various regions of the world. It includes photographs depicting some highlights of the Canal's history, an article on recreational attractions on the Isthmus, another on the three principal men who guided the Canal's construction, and finally, a story on the most important ingredient of all—the people who make the Panama Canal a reality.

Gorgas
Conquered Yellow Fever

Stevens
Opened The Way

Goethals
Engineer, Administrator

CANAL BUILDERS

Par Excellence

THREE MEN, all out of different molds, all with varied talents, but with one thing in common—they built the Panama Canal.

Col. William Crawford Gorgas—sanitarian, the physician who helped free Havana of deadly yellow fever, and who, against uncommon odds of nature and unbelieving superiors, made habitable one of the most pestilential sections of the world—the Panama Canal Zone.

John F. Stevens—engineer, basic architect of the Canal. He made organization out of chaos, rebuilt the Panama Railroad, provided food and water supplies, installed sewers, erected docks and storehouses, recruited labor, and generally put things in order to open the way for the final construction of the waterway.

Col. George Washington Goethals—engineer and administrative genius. He became the chief engineer credited with completing the Canal who, according to a construction-day worker remarking at the time of Goethals' death: ". . . was a great engineer and a great American. We old-time Canal men have lost a father and a brother."

Loved, Hated

Strong personalities all, and like many men of destiny, they could be loved at one moment, and hated the next. Men of heroic stature and towering ability, laboring with singular devotion, they were indispensable to the accomplishment that is the Panama Canal.

There were other dedicated men, engineers, doctors, surveyors, and in the colorful slang of the workers themselves, "hoggers, the dinky skinners, the shovel runners, the cranemen" and the men who were doing the actual digging of the dirt.

The idea of linking the two great oceans by a canal across the Isthmus was in the minds of men long before the Pilgrims landed on the shores of New England in December 1620. It is believed that Vasco Nuñez de Balboa, discoverer of the Pacific, was the first to conceive the idea of uniting the two oceans by a canal. But it was Charles V of Spain who initiated the movement to build a canal in 1523. Though numerous surveys were made and reports written, not a shovel of earth was turned until the French effort which began in 1880.

For 6 years work progressed with dispatch. The French planned to build a sea-level canal at first but finally that task seemed to be impossible and a change of plans was made to provide for a high-level canal with a system of locks.

French Defeat

But poor planning, disease, and mismanagement forced the French to halt operations in May 1889. A new company was formed and by public subscription enough money became available to renew operations on October 20, 1894. For 6 years, thousands of men moved 11 million tons of earth. But again, killing disease and the lack of proper equipment led to defeat for the French. This time it was their last.

Despite the failures, the French accomplished much. The total excavation was more than 78 million cubic yards of earth, and an extremely valuable collection of maps, surveys, drawings, and records was left. The greatest

praise is due the French for getting the work started. They gave reality to the dream of the centuries by actually making the dirt fly.

By the turn of the century the United States had been established as a first-rate world power. The western lands had opened up in dramatic fashion when 90,000 easterners dashed westward for free lands and new homes. Western ports were growing and it was felt that the United States might need a two-ocean navy.

With growing pains and a spirit of adventure, political leaders and the public raised an old question: would it be beneficial to construct a canal and thus cut many thousands of miles from the coast-to-coast ocean route?

Congress Accepts

A commission was appointed and finally recommended to President Theodore Roosevelt to accept a French offer to sell its rights and property for $40 million. Congress accepted, and on May 4, 1904, the transfer was made.

Building a canal was not only a matter of digging a ditch and letting the water flow through. The decision between a sea-level and a lock canal had not been made. A thousand minor questions of administrative and engineering detail had to be answered; housing facilities had to be provided; water and sewerage systems had to be installed; sanitation methods had to be devised to convert a pest-ridden area into a habitable and healthful community; equipment and supplies had to be imported, and an enormous labor force had to be recruited and brought to the Isthmus.

Foremost among the problems to be solved was how to make the Isthmus healthful. President Roosevelt appointed Colonel Gorgas to take charge of that project.

Temperamentally Gorgas was mild, amiable, and optimistic with the added qualities of having quiet determination and persistence. It was this combination of seemingly opposing qualities that carried him successfully through his Panama difficulties.

Not Encouraged

Born in Mobile, Ala., on October 3, 1854, he wanted as a boy to be a soldier like his father who during the Civil War commanded the Ordnance of the Southern Confederacy. But the idea was not encouraged by his parents. He later decided to study medicine, and during his student days at New York's Bellevue Hospital Medical College, the spectre of yellow fever dogged his footsteps. When an outbreak occurred at Memphis,

(See p. 6)

READY TO QUIT—Many engineers were ready to give up when this slide occurred at Cucaracha in December 1913. It completely blocked Culebra Cut as this scene from Contractors Hill shows. Goethals made only one comment: "Hell, dig it out again."

MOSQUITO CONTROL—A two-horsepower oil cart moves along a dirt road spraying breeding areas of disease carrying insects. Such scenes were common during the early construction days when the biggest job was to rid the Zone of yellow fever and malaria.

MEN WENT CRAZY; MEN TOOK TO DRINK

(Continued from p. 5)

Gorgas volunteered to attend the sick, but authorities refused to let him go. Upon graduating in 1879, still bent on a military career, he entered the Army as a first lieutenant.

While serving in Texas an epidemic of yellow fever broke out in Brownsville. He was sent as a volunteer to the fever-stricken district where, among others, he attended Miss Marie Doughty, a visitor from Cincinnati. She recovered and they married in 1885. Gorgas himself contracted the disease and after recovering had the advantage of being immune.

After serving in several posts he was sent in 1898 to Cuba as chief sanitary officer in Havana. He believed the reports that yellow fever was carried by mosquitoes. Carlos Finlay of Havana, in 1881 advanced the thesis that the infectious agent was transmitted by a certain mosquito. And in 1900, Maj. Walter Reed, who headed the U.S. Army's Yellow Fever Commission in Cuba, came to the same conclusion after conducting experiments using human volunteers.

"Go To It"

Armed with these facts, Gorgas asked for authority to rid Havana of the deadly pest. "Go to it," was the answer. In less than a year, sanitation methods employed by Gorgas freed Havana of yellow fever.

Gorgas was sent to Panama with a small staff in June 1904. The death rate of American workers was increasing as an epidemic swept across the Isthmus. But he met with resistance from members of the Isthmian Canal Commission who rejected the theory that the mosquito transmitted yellow fever. A new commission was appointed, but it too was skeptical.

Among the new officers was John F. Stevens, chief engineer, who supported Gorgas to the extent that he threatened to resign if Gorgas left. President Roosevelt, seeing that a critical situation was facing the construction efforts, and seeking advice from trusted advisers, concluded that Gorgas was right and gave him authority to continue with his work.

The battle against yellow fever was short and victorious. Stevens threw his efforts into the campaign and put most of the digging force into sanitation work. By the end of 1905, yellow fever had been eradicated from the Canal Zone, and Gorgas turned his efforts to malaria. Insecticides were poured into holes, ponds, and swamps; drainage ditches were mopped with oil, and even railway trains that crossed the Isthmus were searched for straggling mosquitoes. Malaria declined to a point where it was a minimal threat to Canal construction.

Promotions

Gorgas went on to other medical victories and in 1914 was promoted to Surgeon-General of the United States Army and the following year promoted to major general. Before he died in 1920, Gorgas headed a yellow-fever commission in South America, organized the Medical Corps in World War 1 and directed the yellow-fever work under the International Health Board of the Rockefeller Foundation. At the urgent request of the British Government, in 1920 Gorgas accepted appointment on a yellow fever commission in West Africa.

But on May 30, 1920, Gorgas, at 66, was struck with a cerebral hemorrhage in London. Three days later he died. He had been the recipient of many honors and had been decorated by a number of foreign governments. During his last illness he was visited by King George and knighted.

In July 1905, Stevens was appointed chief engineer. He arrived on the Isthmus with President Roosevelt's words still ringing in his ears: "Things are in a hell of a mess down there." He found it to be an understatement. Red tape had bogged down the work, and morale was at its lowest ebb.

But Stevens was an organizer, a trouble shooter, and he immediately realized that without supporting activities the Canal would never be dug.

Stevens was a New Englander by birth and a westerner by choice. Although he lacked technical training, he decided to become an engineer. In 1874, at the age of 21, he moved to Minneapolis and became an assistant engineer for the city. He shifted to railroading and moved to Texas where he served as axman, rodman, instrument man, surveyor, engineer, construction superintendent, and then to executive positions.

He spent long periods in undeveloped country searching for new routes for the railroads, and he found them.

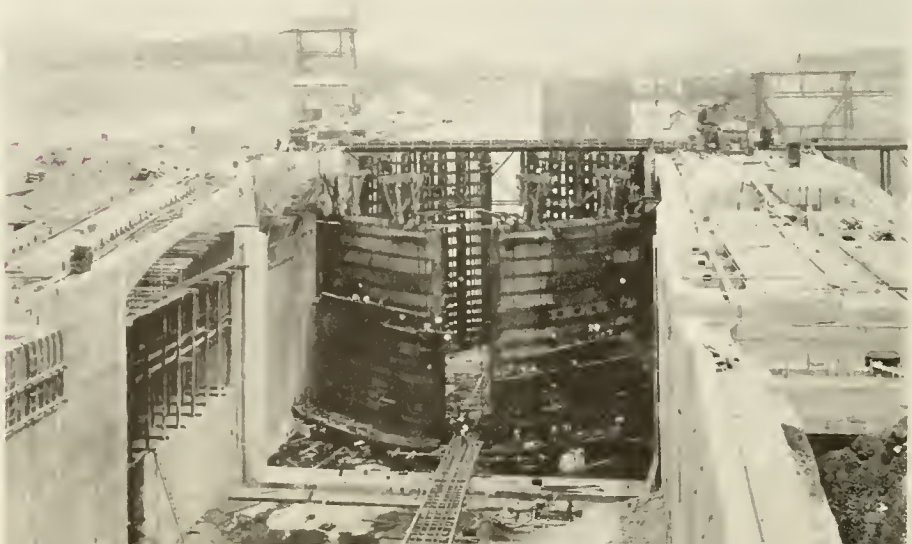
Accepts Job

Ever alert to great undertakings in other parts of the world, he became interested in the challenging problem of building a canal at Panama. Not expecting to ever be actively connected with the Panama Canal project, Stevens accepted an appointment with the Philippine Commission to head its railroad building program. As he prepared to leave for the Pacific islands, President Roosevelt, on the advice of railroad executives, asked him to head the Panama project.

A man of imposing stature and commanding personality, Stevens tramped the entire length of the canal viewing the various works. Walking with energy, he radiated the confidence of a natural leader. Often speaking to employees, he told them that there were only three diseases on the Isthmus: "yellow fever, malaria, and cold feet; and the greatest of these is cold feet."

His first task was to renovate and double-track the old Panama Railroad—a vital link in moving supplies, men and dirt. He then built construction camps, roads, water supply and sewers, erected docks and storehouses, recruited skilled and unskilled labor, and arranged for an adequate food supply.

NEARING COMPLETION—Men work on the west chamber of Miraflores lower locks April 14, 1913. The scene is looking north.



Stevens and his team of engineers had another task to accomplish before they could be confident of success. Controversy over whether the Canal should be a sea-level waterway or a lock-type canal had not been settled. In fact, it became the hottest issue builders of the Canal ever had.

Prior to the appointment of Stevens, President Roosevelt had designated an International Board of Consulting Engineers to consider the type of canal. Reporting to the President in January 1906, the board split 8-5 favoring a sea-level Canal.

Lukewarm

Stevens, who strongly favored the lock-type proposal, testified in Washington. But his appearance was not enough to sway Congress from the majority's recommendation. Stevens then appealed to the President but discovered that he had become "lukewarm" in his stand for a lock canal.

As one who believed in vigorous handling of superiors as well as subordinates, Stevens talked to the President "like a Dutch uncle." Roosevelt was again convinced and stood behind him "like a brick." In the end, with support of the President, Secretary of War William Howard Taft, and the Isthmian Canal Commission, the plans of Stevens prevailed, and Congress, on June 29, 1906 adopted the high-level lake and lock plan.

Before Stevens accepted the job as chief engineer, he made it clear to the President that he would remain with the project until, in his judgment, its success or failure was determined.

Although a long way off, success seemed assured, and Stevens resigned late in March 1907.

As evidence of the esteem in which he was held, Canal employees presented him with two bound volumes of 10,000 signatures of a petition in which they had requested him to reconsider his resignation and remain, a gold watch, diamond ring, and a silver table setting.

On the day of his departure on the SS *Panama* from Colon, the largest crowd since the United States began construction of the Canal gathered on the pier to bid him farewell.

To Russia

After returning to the United States, Stevens continued his climb in the railroad industry. President Wilson appointed him head of the U.S. Railway Mission to Russia in 1917, and from 1919 to 1923, he was president of the Inter-Allied Technical Board supervising the Siberian railways.

In these positions he observed the start of the Communist Revolution. He was among the first observers to alert responsible leaders in the United States to its dangers.

Returning home in 1923, he later became president of the American Society of Civil Engineers. Stevens died in 1943 in North Carolina at the age of 90.

He had made order out of chaos, but now that he had resigned, another special kind of man was needed to get the work finished.

President Roosevelt decided to put someone in the job who would stay for as long as Roosevelt wanted. That man was Lt. Col. George W. Goethals of the Army Corps of Engineers, a strict disciplinarian with outstanding administrative ability.

Unsmiling

Erect, soldierly, and unsmiling, Goethals possessed, however, a keen sense of humor. Stern of purpose, he had a driving power that carried all before it.

Born in Brooklyn in 1858, the son of Belgian immigrants, Goethals showed such promise in the public schools that his principal urged his appointment to the U.S. Military Academy. He was graduated second in his class, completed a special course in engineering and began a rapid rise. Soon he was considered the engineering brains of the general staff, and in 1907, when President Roosevelt asked the Secretary of War to nominate a man to take charge of the work at Panama, the selection was instant. Goethals was chosen.

Known as "The Colonel," Goethals was at his desk at Culebra until 11 o'clock nearly every night. During the day beginning at 7 a.m., he was out on the job throughout the morning and part of the afternoon, dashing from place to place in the "Yellow Peril," his familiar railcar, plowing through mud and climbing over slides, rain or shine.

A crane operator once remarked: "Few men could have stood the amount of work he put on himself. Men broke down; men went crazy; men took to drink. The colonel kept as keen as a brier."

Holds Court

On Sundays he held court in his office. Any man could see him personally on that day. Women came to settle their troubles. Hour after hour he sat there, smoking cigarettes, advising, listening.

Just when it looked as though the long drudgery of building the Canal was nearly finished, a major slide occurred at Cucaracha in 1913. Many of the engineers were ready to give it all up. Colonel Goethals was summoned hurriedly to the scene.

"What are we going to do now?" he was asked. He calmly looked over the scene, lighted a cigarette, and answered:

"Hell, dig it out again." That was his only comment.

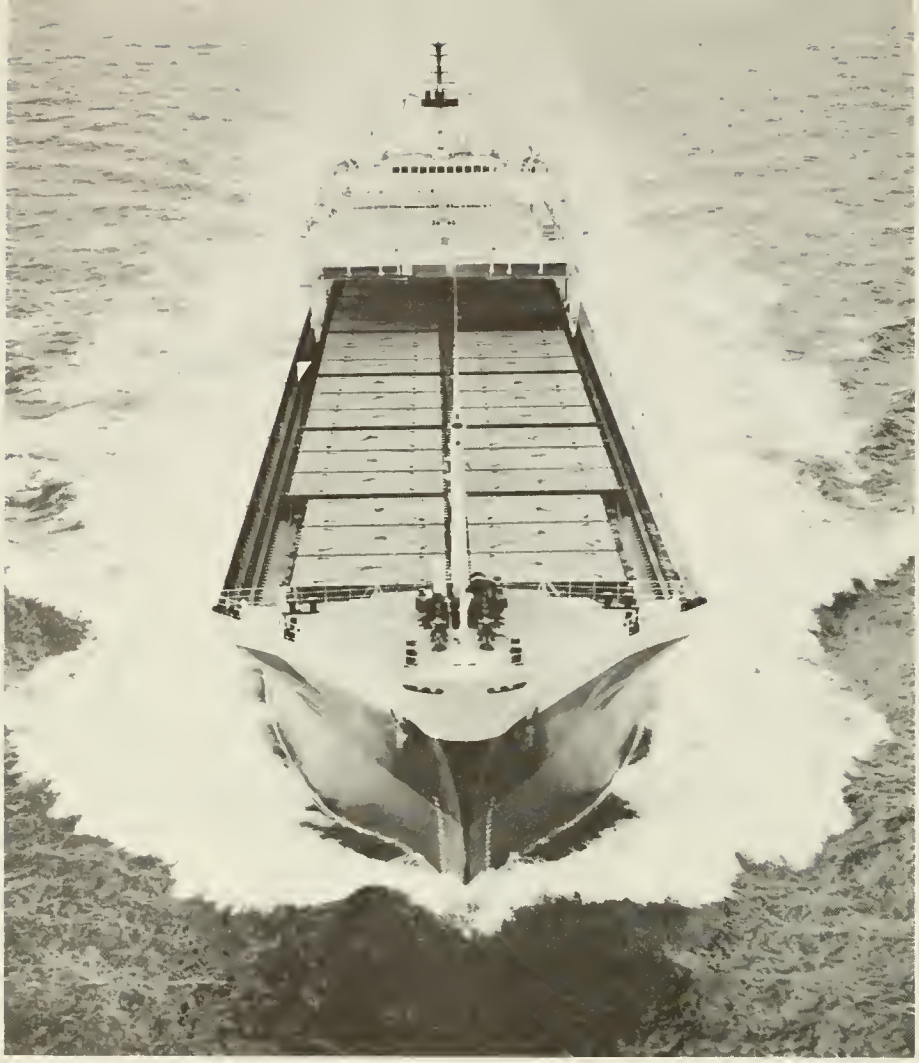
Decision

Construction moved rapidly under Goethals and thanks to him the far looking decision was made to increase the width of the locks from 100 to 110 feet. Despite slides and other delays such as when Gatun Locks began to sink a year after he arrived, the Canal was opened nearly 5 months ahead of schedule.

Heralded as America's greatest engineer, Goethals became the Canal Zone's first Governor. The following year he was promoted to major general. Late in 1916 he retired and founded his own engineering firm. When the United States entered the war Goethals returned to the Army as acting quartermaster-general. Finally, he became assistant chief of staff and director of purchase, storage, and traffic.

Back in private life, he resumed his profession of consulting engineer and continued it until his death in January 1928.

DECEMBER 1914—The Administration Building was newly opened and living quarters were completed along El Prado in Balboa when this photo was taken.



COAST TO COAST—The MS "MacMillan" was specially built to haul lumber from Canada's western timber lands to the U.S. east coast through the Panama Canal.

UNITED STATES Master at World Trade

ON A PALM lined atoll of the South Pacific a husky native fisherman trades his day's catch for a colorful sport shirt made in the textile mills of North Carolina.

In a tall office building in Tokyo a Japanese industrialist signs a contract to buy coal from West Virginia mines for the manufacture of iron and steel products partially made with U.S. scrap metal.

Further around the world a German cabinet maker selects a finely grained piece of walnut from U.S. forests that will wind up as a table in a Berlin apartment.

Every day in nearly every country of the world someone—fisherman, businessman, home owner—uses the raw or manufactured products of the United States.

Through Canal

Many of these commodities, numbering in the hundreds, flow through the Panama Canal, which has served the world's trade community virtually without interruption for the past 55 years.

The benefits of the Canal to the United States, or any other country using the waterway, are apparent through the savings in distance, time and cost it offers the shippers, and ultimately, the consumers of the world.

The 50-mile-long passage between the Atlantic and Pacific Oceans reduced the distance between New York and San Francisco from 13,135 to 5,263 ocean miles—a saving of more than 7,800 miles. The distance between New York and Yokohama was shortened by more than 3,000 miles and New York to Melbourne by nearly the same distance.

At the end of fiscal year 1968, the number of vessels of every variety which had transited the Canal since it opened on August 15, 1914, had reached more than 403,000. Nearly 321,500 of these were of the ocean-going (300 Panama Canal net tons or larger) commercial class.

Ships, Cargo

During fiscal year 1968, 14,807 ocean-going ships made the Canal passage. Of this total, 13,199 were commercial

transits, 1,504 were U.S. Government and 104 free and repair transits. The cargo these ships carried came to 105.5 million long tons with 96.5 million tons classified as commercial cargo.

Although there are a dozen major classifications of commodities that make up the bulk of Canal cargo, the list of items passing through the Canal in the holds of merchant ships is a long one and some of it reads like poetry. For example:

Angles, shapes, and sections
Nails, tacks, and spikes
Plates, sheets, and coils
Tubes, pipes, and fittings
Wire, bars, and rods.

Before the Canal opened, tall-masted sailing ships plied between the U.S. east and west coasts and Europe hauling lumber, grain and nonperishable food products. It was a 13,785-mile trip between the timber country of Portland, Oreg., and New York—a route that took the trading ships around the treacherous Cape Horn at the southern tip of South America, or through the Strait of Magellan, a slightly shorter passage just north of the cape but even more dangerous because of its relative narrowness and rocky shores.

The Canal route, however, cut some 6,500 miles off the distance, allowing shippers to reduce labor costs and to increase the tonnage moved by making more trips.

Time, Money

A vessel traveling between New York and San Francisco at a speed of 16 knots saves nearly 3 weeks of sailing time by using the Canal instead of traveling around the Horn. And in addition, depending on operating costs, a ship can save up to $50,000 on each one-way trip, even after paying the Canal toll.

The Suez Canal, which opened 100 years ago on November 17, gave Europe a closer market for raw materials. The Panama Canal did the same thing for American manufacturers and put them on equal footing with their European competitors.

The Southern States of North America, which even in the early 1900's were still trying to dig out of the economic depression that followed the Civil War, benefited greatly by the opening of the Canal.

For the first time, these States had a direct route to the Far East for their chief product, cotton. Up to that time, cotton shipments went to the east by three routes—rail to San Francisco and then by ship across the Pacific Ocean; by ship around the Horn; and the third, but most important, by rail to New York to be shipped through the Suez Canal.

BUSY PORT—Merchant ship is unloaded at Philadelphia.

Steady Rise

On August 15, 1914, gulf coast ports found themselves 500 to 750 miles closer to the Atlantic entrance of the Canal than they were to New York. Thus the south gained an advantage over east coast ports in the shipment of products to the Orient, and marked a steady rise for the south in its exports of lumber and forest products.

There is no doubt then, that gulf ports, with their ability to bring the railroad car and the merchant ship side by side at shipping terminals, were in a considerably better position when the Canal gave them shorter and quicker passages to the west coast and Pacific areas.

Peoples of the western States were able to buy more cheaply from Europe and the east coast and increase their trade, both domestic and foreign.

Northern west coast ports became the natural gateways for the export and import trade of such areas as Idaho, Montana and Wyoming, and British Columbia.

For the industrial sections in the eastern United States, the Canal opened

(See p. 10)

For The Future:

"...Nothing But Growth..."

(Continued from p. 9)

up the vast areas of western South America, the Pacific and the Far East.

First 3 Months

According to *The Canal Record* for October 28, 1914, 113 oceangoing ships transited the Canal during the first 3 months of operation. Forty-six were out of east coast ports, and 25 of them carried manufactured commodities from the port of New York.

During this period, more than 1 million tons of cargo were transported through the waterway. Four main routes carried 95 percent of the traffic: U.S. intercoastal trade; Pacific coast of the United States and Europe; west coast of South America, the Atlantic seaboard and Europe, and between the east coast of the U.S. and the Far East.

As traffic has steadily increased during the past 55 years, these routes have remained among the leading sea lanes through the Canal.

Last year, the five primary routes in the order of importance were: East Coast United States and Asia; East Coast United States and West Coast of South America; Europe and West Coast United States, Hawaii and Canada; Europe and West Coast South America; and United States Intercoastal.

The main commodities hauled over these routes, accounting for 94 percent of the total oceangoing commercial cargo in 1968 were: petroleum and products; coal and coke; ores and metals; grains; nitrates, phosphates, and potash (fertilizers); agricultural commodities; lumber and products; manufactures of iron and steel; canned and refrigerated foods; minerals; chemicals and petrochemicals, and machinery and equipment.

Whatever the cargo, two thirds of it is either heading to or coming from the United States. This was true in 1968 and has been the general pattern through the years.

Savings

Not only does the Canal mean savings to consumers because of the cheaper transportation costs, but it operates at no cost to the U.S. taxpayer.

To further enhance national security was certainly part of the reasoning in the decision to take up where the

CARGO ASSEMBLED—Steel matting, foreground, and containers, in the background, are ready for loading at an east coast port.

CABLE SHIP—The largest cable laying and repair ship in the world, the U.S.-flag "Long Lines" ties up at Cristobal on a trip from the Pacific to Florida. Although not a frequent visitor, she uses the Canal on trips between the two oceans.

French left off in their efforts to build the Canal.

In World War I, the Canal enabled the United States to defend itself, its Pacific possessions and Latin America more effectively. During World War II, the Canal became even more crucial to American strategy as warships were moved from ocean to ocean. During this period a greater amount of strategic supplies moved through the Canal than ever before, although commercial trade dwindled to a trickle because of the threat of submarine attack on merchant ships and because trading nations were no longer able to exchange their goods.

Marines

Again in the 1950's, many supplies were moved through the Canal to Korea, and at the time of the Cuban missile crisis in 1962, U.S. Marines from California were transported to the troubled Caribbean area.

Although modern techniques of war have diminished the Canal's importance for the movement of combat vessels, today, approximately 10 percent of the ships that transit the Canal are carrying supplies for the war in Vietnam.

International commerce is not static by any means—nor are the routes and the goods that pass over them. Discoveries of new sources of raw materials, the development of natural resources and increased demand and production of manufactured products all contribute to changes.

In the early years of the Canal, a main commodity which passed through was Chilean nitrate destined for the east coast of the United States. Today, this resource is insignificant as new synthetic fertilizers have been developed.

Change In Direction

And although petroleum has always been a major commodity in Canal traffic, the flow has changed. Once it was predominantly intercoastal, from the west coast to the east coast of the United States. Today petroleum comes mostly from Venezuela and is shipped west.

This predominantly east-west trade may change again as the result of explorations at Orito, Colombia, where productive fields have been found. In April of this year, 80,000 tons of crude oil were pumped from Orito to Tumaco on the Pacific coast and loaded into tankers. Some of the oil was sent to the west coast of the U.S. and some through the Canal to the U.S. east coast.

Should this continue, it would more than double the Pacific to Atlantic seaboard crude oil shipments which last year amounted to 651,000 tons.

Of the 13,199 commercial oceangoing ships that transited the Canal in fiscal year 1968, a total of 1,647 were U.S. flag vessels. Liberia followed closely with 1,543. Third was Norway with 1,498 and close behind was the United Kingdom with 1,453.

U.S. Traffic

That year the Canal handled 96.5 million long tons of commercial ocean traffic. The U.S. portion of this—imports, exports, and intercoastal traffic—totaled 62.5 million tons, or nearly two-thirds

(See p. 30)

LUMBER—A major Canal commodity heads for consumer.

PANAMA CANAL
Trade Link With The Old World

With cargo booms raised skyward, an oceangoing merchant ship which just arrived from Europe is unloaded at a U.S. east coast port.

HALF A WORLD away lies Europe—a mainstay of the Panama Canal.

Among the geographical areas for which the Canal is an artery of international trade, Europe has ranked high through the years in terms of transits, tolls, and cargo tonnage. Figures of European traffic through the waterway are impressive and reflect the sizeable portion of the Continent's overseas trade that flows through the Isthmian waterway as well as its significant position as a Panama Canal customer.

One-half of the commercial transits, one-half of the tolls and one-fifth of the total cargo in fiscal year 1968 were generated by European trade. Translated into figures, these portions meant nearly 7,000 transits, more than $43.5 million in tolls, and 20.8 million long tons of cargo.

The ratio of European traffic to the overall Canal activity has been consistent over the years. Three decades ago, for example, the 3,215 commercial transits by European-flag vessels represented 58 percent of the annual total; the $12.9 millions in tolls paid by European ship operators accounted for 56 percent of the total collections, and the 8.7 million tons of cargo moving to and from Europe were 31 percent of the overall figure.

Top Nine

Little wonder, then, that the major European routes through the Panama Canal have as consistently ranked among the top nine sea lanes in traffic through the Isthmus. They link the Old World with the west coast of the Western Hemisphere and with Oceania and Asia.

The maritime nations, as is to be expected, account for the bulk of European traffic. However, every major European country is included in the current listing of vessel nationalities at the Panama Canal. In the previous fiscal year they numbered 22, ranging from just 2 transits by Rumanian vessels to a whopping 1,498 by Norwegian ships. Incidentally, Norway, the United Kingdom and West Germany ranked in that order after the United States and Liberia in the compilation of transits for the 12-month period. Thirty years ago, 16 European countries were using the Panama Canal, the range then being from one transit by Finland to 1,281 by the United Kingdom.

Well Defined

The routes of European exports and imports are well defined at the Panama Canal: exports go mainly to the Far East and to the Pacific coast of the

The Norwegian ore carrier "Sigvik" is taken through Gaillard Cut by the oceangoing tug "Taboga" during Canal widening work. The "Sigvik" is heading toward the maritime nations of Europe. Since the photograph was taken the dredging work has been completed.

Western Hemisphere; the bulk of imports originates in North and South America. In fiscal year 1968, some 7 million tons of European exports moved through the Canal, one-half destined to the Far East, the rest split among South and North America and Oceania. Imports were double the exports (reflecting the exhaustion of raw materials in the Continent) and came principally from South America, Canada, the United States, and New Zealand.

To the Far East and the Americas, Europe sent machinery and equipment, iron and steel manufactures, fertilizers, pig iron and coking coal—7 million tons in fiscal year 1968. From the Americas and Australia, it imported lumber and lumber products, grains, canned and refrigerated goods, fishmeal, ores and metals—14 million tons. Thus the bulk of European transits are to and from the west coast of South America, Canada, the Far East and Oceania.

In the past 2 years, Panama Canal traffic figures have reflected a significant service to European trade.

6-Day War

The closing of the Suez Canal in mid-1967 as a result of the 6-day war between Israel and Egypt disrupted trade lanes that had relied on the Middle East waterway. Europe was among the areas affected. The re-routing through the Panama Canal of many European ships formerly using the Suez Canal accounted for an increase estimated at 4.5 million tons of cargo through the Isthmian waterway in the the first 12-month period following the closing of Suez. All but half a million tons of this increase was attributable to Europe, which exported via the Panama Canal 3.5 million tons of goods that normally would have moved through Suez, destined mainly to Australia and the Far East. Thus, pig iron exported to Japan by European Communist Bloc countries now is going through the Panama Canal instead of Suez. The same is true of Polish coking coal.

With the Suez Canal still closed, the Panama Canal continues to perform this valuable service to the European trading community.

All in all, the Panama Canal has borne out the predictions made 55 year ago with respect to its use by European countries. The February 1914 issue of the *National Geographic Magazine,* in an article entitled "The Probable Effect of the Panama Canal on the Commercial Geography of The World," said ". . . the European countries will use the Canal in most of their traffic with western America and in exceptional instances with northern Asia, Australia, and New Zealand." There is no question that Europe has relied through the years on the Panama Canal for its commerce with western America; now an "exceptional instance"—the closing of Suez—has increased the value of the Isthmian waterway to Europe as a funnel for its trade with distant lands.

lumber

coffee

bananas

The Way Is Open

GREEN GOLD. Black gold. Ores. Copper and silver. Coffee and sugar. Fishmeal.

For South American countries all these mean dollars and marks and pounds and francs with which to buy the iron and steel manufactures that are a major part of their import needs for progress.

Most of this trade, however, would not have been economically possible were it not for the Panama Canal. Developing Latin American nations have an almost incalculable commercial interest in the Canal. This is especially true of the west coast countries—Ecuador, Peru and Chile—which trade extensively with Europe and the U.S. east coast.

Their reliance upon the Canal is dramatized by the fact that the total trade of each constitutes from one-third to more than one-half the gross national product.

Bananas, Coffee

The inter-dependence of the Americas is convincingly demonstrated by Panama Canal trade figures. The United States, increasingly dependent on raw material imports to sustain its economy, obtains substantial portions of its requirements from Latin America—bauxite and bananas, tanning extract and coffee, industrial fiber (sisal, henequen, abaca), petroleum and sugar, copper and iron ore, and lead. In return, Latin American countries take more of the United States industrial production.

A similar exchange takes place between South America and Europe, also through the Panama Canal.

During fiscal year 1968, nearly 8.4 million long tons of cargo moved over the Panama Canal trade route between the U.S. east coast and South America; 2.8 million tons over the East Coast South America-West Coast U.S.-Canada route, and 7.6 million tons over the Europe-South America route. These figures underline the Panama Canal's role in the economy of South America.

The trade statistics of Ecuador, Peru and Chile offer striking examples.

Green Gold

Take Ecuador. Its chief export, bananas (green gold), most of which went to the United States and West Germany, accounted for close to 979 thousand long tons of Canal traffic in fiscal year 1968. But bananas are only one of Ecuador's exports. Others include refrigerated and chemical products, coffee, coal, coke, lumber, copper, and cotton, which bring her total to more than 1.2 million long tons. Add imports of about 1.1 million long tons and the total—well over 2.3 million tons—represents 2.4 percent of the total cargo that moved through the waterway in that 12-month period.

Peru's reliance on the Canal for its international trade is equally dramatic. Peruvian ores and minerals, nitrates, phosphates, potassium, sugar, molasses, cotton, coffee, petroleum, and fishmeal, flow through the Canal to Atlantic ports in the United States and Europe. In fiscal year 1968, the Canal handled nearly 4.9 million long tons of Peruvian exports and approximately 2.3 million tons of the country's imports.

Chile also is heavily dependent on the Canal for its commerce. The flow of goods to and from Chile in fiscal 1968 amounted to approximately 3 million tons in each direction. Copper and sulphur led the list of Chilean exports. Petroleum and machinery, coal and coke, and wheat flour were among its principal imports.

Consumers

This is not all, however. Goods from practically every South American country move regularly through the Panama Canal en route to consumers abroad. There is substantial trade between east coast countries in South America and the west coast of North America.

Thus, Venezuelan petroleum "black gold" accounted for 7,882,381 long tons of the cargo shipped through the Canal in fiscal year 1968; Colombian coffee for 210,696; Brazilian ores and metals for 123,552 tons, to cite a few examples.

The fact that South America is still an untapped reservoir of vital raw materials combined with the growing industrialization of this part of the world point inevitably to increasing South American traffic through the Panama Canal in the years to come.

In its 55th year of operation, the Panama Canal's key role as a vehicle for hemispheric progress grows larger. It has helped develop a major part of the economy of the South American nations, nine tenths of whose total foreign commerce is dependent upon merchant shipping. And in fulfilling that role with eminent efficiency, the Panama Canal stands out today as a living, practical symbol of hemispheric solidarity.

Far East and the Canal

The passage through the Isthmus is as important to the booming Far East as raw materials and markets

FOLLOWING CENTURIES of feudal seclusion, Japan began to emerge as a major industrial power during the same era that saw the completion of the Panama Canal.

The use of the Canal by Far Eastern shippers, however, began slowly. But as Japan's industrial development grew, the passage through the Isthmus became as important to Imperial Japan as the raw materials it imported.

Today, 61 percent of all cargo passing southbound through the Canal is en route to the Far East. Of this total almost 32.2 million long tons, or 86 percent, is destined for Japan. She ranks sixth among the 48 nations that used the Canal during fiscal year 1968 with 1,036 oceangoing merchant ships making the transit.

For a period of 10 years before December 7, 1941, when Japanese planes attacked Pearl Harbor, transits of Japanese registered ships had averaged nearly 300 a year. Most of those homeward bound were loaded with scrap and raw materials, cargoes that have remained important Japanese imports. More recently, coal has been added to the major imports of Japan.

Greatest Impact

In the years when the Canal was reaching completion, economists predicted accurately that the great Australasian and Asiatic markets, then scarcely touched, would receive the greatest impact. The possibilities of the Asiatic market, which the Canal brings so much closer to the United States, were reckoned as almost incalculable.

With the possible exception of the countries on the west coast of South America, Japan probably has benefited more than any other foreign country from the Panama Canal.

In 1936, cargo destined for Japan alone totaled nearly 1.8 million long tons. In 1968, only 32 years later, cargo reached almost 32.2 million long tons.

Japan's role in the industrial development of the Far East is a dominant one and it can be said at present that the island nation has definitely broken out of its economic shell. It is building up through eastern Asia into the Middle East and Africa, and is developing its industrial investments in the Americas.

Japan's industrial sway over the Far East as well as its increasing dependence on the Panama Canal is illustrated by the vast quantities of raw materials going through the Canal to feed the steel mills and manufacturing plants of Japan. Of particular importance is the coal sent from the United States east coast to keep the Japanese industrial empire operating.

U.S. Coal

A report made in 1967 by Ely M. Brandes, senior economist at Stanford Research Institute, said 95 percent of the coal shipped through the Canal is U.S. coal destined for Japan. Involved are coke and coal required for use in steel production. Projections of future coal shipments show some growth in exports of coal to Japan as well as to South America and to the west coast of the United States. *(See p. 18)*

Opposite page, at left: The "Japan Pine," assisted by the tug, "Gulf Raider," enters Miraflores Locks. The ship, 734.9 feet long with a beam of 104.3, is owned by Japan Line Ltd., which operates a number of similar bulk carriers now using the Canal.

Opposite page, at right: American exports are loaded in New Orleans for shipment through the Canal to the Far East.

Above, left and center: Japan's booming ship builders construct a large percentage of the ships using the waterway. The "Melodic" and the "Arctic" are typical of regular customers bringing coal south. The "Melodic" set a tonnage record in 1968 and the current record is held by the "Arctic" with 60,309 long tons of coal shipped from Norfolk to Japan in January.

Above right: Oklahoma coal is loaded in New Orleans for shipment to Japan.

At right: The Japanese Floating Fair ship, "Sakura Maru," visited Panama in April.

The Far East

(Continued from p. 17)

U.S. coal used in Japan occupies a unique position, he said. Delivery cost is considerably higher than the cost of the nearest competitive coal which comes from Australia but which does not match the quality of U.S. coal.

Another raw material gaining importance among the products going through the Canal to the Far East, is alumina from British Guiana, the West Indies, the east coast and gulf ports of the United States. Of the more than 1.3 million long tons of alumina shipped southbound through the Canal last year, nearly 73 thousand long tons went to Japan.

Influence On Canal

Although the Canal has meant much to Japan and other Far Eastern countries since it was opened to traffic 55 years ago, the Far East also has had influence on the Canal.

Japan, with its booming postwar ship building business, is constructing a large percentage of the ships that use the Panama Canal and sail under the Japanese flag and the flags of other nations. Some of these regular customers are those bringing bulk coal southbound and which sometimes return with iron ore from Peru for Baltimore or Europe. Many of them, such as the *Onomichi Maru*, the *Melodic*, and the *Arctic*, have set Canal cargo records. Others, like the *Jinko Maru*, carry rolled steel made in Japan to the U.S. east coast and return from New York with scrap iron.

Many of the ships being built in Japan are too big for Canal transit, but a great majority have been designed with a view of using the Canal either on a regular basis or only occasionally such as the world's first LASH (lighter aboard ship), a 43,000-ton, 860-foot long cargo liner launched in May and due to go through the Canal in October. Christened the *Acadia Forest*, she will operate under a long term charter from Norwegian owners between the U.S. gulf ports and north Europe carrying paper outbound and general cargo on return.

Many of the ships put into trade by other Far Eastern countries following World War II and the Korean war were built in Japan. South Korea, for instance, has increased its national shipping through the addition of several new vessels built in Japan. The *Korean Pioneer* was the first to make regular trips through the Canal. South Korean vessels made 40 transits in fiscal 1968.

Ships flying the Philippine flag made 94 transits during the past fiscal year. Many of these engaged in trade with Europe and the east coast of the United States, were built in Japan. Other Asian countries using the Canal regularly are the Republic of China, Thailand, and Indonesia.

Know-How

Japan's know-how in steel and machine manufacturing won the contract for the Mitsubishi Shoji Kaisha Inc. for the construction of the new Panama Canal towing locomotives and locks cranes which were delivered to the Canal Zone in 1961 to replace the ones that had been in operation since 1914.

Last year, Mitsui and Co. Ltd. of Tokyo, was awarded the contract for the installation of a power regulating transformer at Miraflores Substation which will be the largest piece of machinery of its kind ever to be assembled on the Isthmus by the Panama Canal organization. It was manufactured by the Toshiba Electric Company and will be used to regulate the flow of power of the Pacific and Atlantic interconnection with the Panama Power and Light Company.

Recently, a contract for the installation of new central office telephone switching equipment in Balboa was awarded by the Panama Canal to C. Itoh and Co., Ltd. of Tokyo. It is one of the first steps in the proposed long range plans to modernize the Canal Zone, Panama and the U.S. military exchanges.

CARGO OF COAL—The "Vestfold," a Norwegian-flag bulk carrier, squeezes through Miraflores on its way from Norfolk to Japan. The 823-foot ship has a beam of 106 feet.

SHIPPING

Tonnage Conference

The Panama Canal has been watching with interest the tonnage measurement conference in London, sponsored by the Intergovernmental Maritime Consultative Organization, a specialized agency of the United Nations. Representatives of the world's major shipping nations agreed in June to unify ship measurement rules by revising the two-tier system of gross and net tonnage. They ruled that gross tonnage should express the volume of the ship in weight, and net tonnage the displacement of the ship. At present, gross tonnage represents the volume of the whole ship in units of 100 cubic feet per ton. Net tonnage is the same volume minus the space required for machinery, propelling equipment, crew quarters and between-deck space.

The conference voted to issue a recommendation that the new net tonnage based on the displacement be used as a yardstick for tolls and dues. The new measurement would eventually replace six systems now in use; that of the Oslo convention—used by most European nations—and one each used by Britain, the United States, the Soviet Union, and the Suez and Panama Canals.

Canal Zone Governor W. P. Leber, commenting on the proposed new system of tonnage measurement at the conference, said the Canal would try to use any universal tonnage measurement system agreed on and accepted, but much would depend on the particular system chosen by the conference.

Stout Ships

SIX PASSENGER liners built in the United States in the 1920's and early 1930's recently were praised by the British shipping magazine "FAIRPLAY INTERNATIONAL SHIPPING JOURNAL" for their excellence of construction.

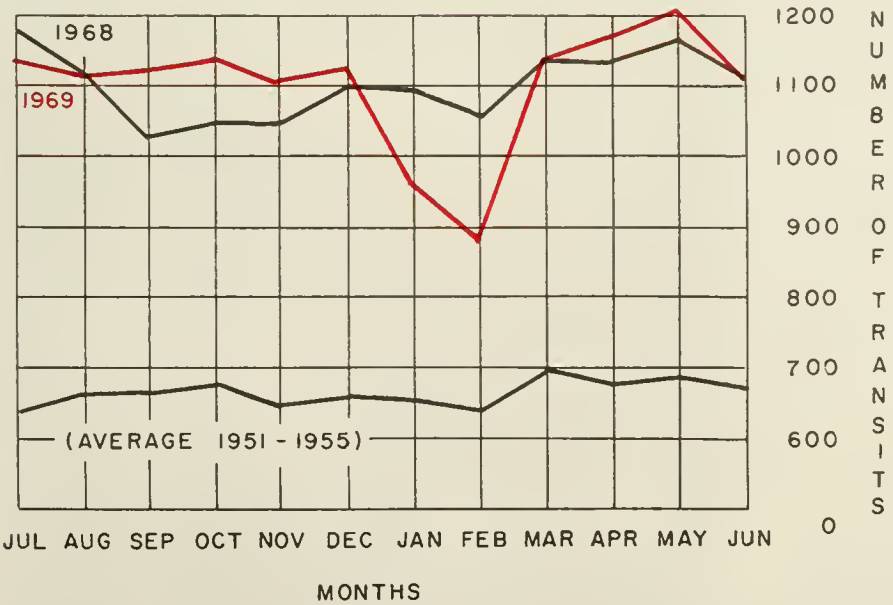
The vessels were the former Grace Line ships *Santa Paula* and *Santa Rosa*, and the Matson Line's *Malolo*, *Mariposa*, *Monterey*, and *Lurline*. All are now sailing under different names.

PANAMA CANAL TRAFFIC
STATISTICS FOR 12 MONTHS
OF FISCAL YEAR 1969

TRANSITS (Oceangoing Vessels)	*1969*	*1968*
Commercial	13,150	13,199
U.S. Government	1,376	1,504
Free	76	104
Total	14,602	14,807
TOLLS*		
Commercial	$87,492,565	$83,942,429
U.S. Government	8,422,043	9,211,220
Total	$95,914,608	$93,153,649
CARGO**		
Commercial	101,391,132	96,550,165
U.S. Government	7,210,068	8,497,221
Free	182,357	482,483
Total	108,783,557	105,529,869

* Includes tolls on all vessels, oceangoing and small.

** Cargo figures are in long tons



The *Santa Rosa* and *Santa Paula* were two of four popular Grace Line vessels built at Kearny, N.J., in 1931-32. They had accommodations for 225 first-class passengers and sailed between the west coast of South America through the Canal to New York. During World War II, two of the four were lost at sea. But the *Santa Rosa* and *Santa Paula* survived and were put back in service between New York and Venezuela. Later, however, the Grace Line sold them to the Typaldos Lines and the names were changed to the *Athenai* and *Acropolis* respectively. They now operate in the Mediterranean.

The *Malolo*, built in Philadelphia in 1927 for the San Francisco-Honolulu run, is now the *Queen Federica* and is in service for the Chandres Lines.

The other three were built by Bethlehem Steel at Quincy, Mass., in 1931-32. The *Mariposa* is now the Home Line's *Homeric* which cruises the Caribbean and has called several times at Cristobal. The *Monterey* has been renamed the *Lurline* which is scheduled to transit the Panama Canal in November from San Francisco for a Caribbean cruise. The original *Lurline* was sold to the Chandres Lines and renamed the *Ellinis* which is a regular Canal customer operating between Australia and the United Kingdom.

First LASH Vessel

Due to transit the Canal in September is the world's first LASH (lighter aboard ship) vessel named the *Acadia Forest*.

The 43,000 gross-ton cargo liner was built in Yokosuka, Japan, and will be put in service in October by the Central Gulf Steamship Corp. of New Orleans. The ship will carry 73 lighters (boats used to move the cargo) on each voyage with remaining lighters positioned in port and inland terminals to serve the overall system. Ship and lighters represent an investment of about $18 million.

Contracts have been let for the construction of other vessels of the LASH design, but the *Acadia Forest* is the first to go into operation, according to the Weekly Bulletin of the Port of New Orleans. It will go through the Panama Canal on its maiden voyage from Japan. Later the ship will operate between U.S. gulf ports, the United Kingdom and Northern Europe. It will carry International Paper Company cargo outbound and return with general cargo.

Fulfilling Her Destiny, Panama City Becomes Municipal Giant

UPPER PHOTO—Modern Panama City seen from Ancon Hill. Shrimp fleet is anchored in Panama Bay at low tide.
LOWER PHOTO—Similar view in 1855. The realistic sketch by unknown artist shows Panama Railroad terminal at left center.

FROM THE beginning, four and a half centuries ago, the quest was for a crossroads site.

The immense Pacific Ocean, or South Sea, as it was then called, had just been discovered and man already sensed that here, on this neck of land, lay the passage between the oceans.

It was July 1514. A fleet of 20 ships, flying the Spanish banner, had arrived off Santa María la Antigua del Darién—the first mainland settlement in the Americas, founded only 4 years earlier.

In command of the expedition was the dashing Colonel Don Pedro Arias Dávila (to be known in history as Pedrarias), by royal appointment Governor and Captain General of Castilla del Oro, the gold-rich land along the Atlantic coast of Panama that Columbus had explored during his fourth voyage to the New World in his epic search for the route to the Indies.

Settlements

Already the conquistadores had planned their next step—an overland trail between the Atlantic and Pacific Oceans. Armed parties had set out south and west from Santa María la Antigua to build settlements along the proposed trail. One of the parties had built one such settlement on the San Blas coast and another farther inland from the Caribbean shore. Now it was preparing to push toward the Pacific coast to carry out its orders to build a third settlement there.

But the Indians rose in vengeful rebellion, laying siege to the Spaniards at the inland settlement. Pedrarias, a resolute man, dispatched a punitive expedition to rescue his men. The force, under Captain Antonio Tello de Guzmán, beat back the besiegers and then set out to complete the trek southward across the Isthmus.

At last, the Pacific coast was reached—at a miserable fisherman's hamlet the Indians called Panamá.

A Fishery

Pedrarias himself wrote to the Spanish Court in 1516: "Your Highnesses should know that Panamá is a fishery on the coast of the South Sea and the fishermen are called *panama* by the Indians."

By July 1519, Pedrarias was undisputed ruler of Castilla del Oro. At his orders, Vasco Núñez de Balboa, the *Discoverer of the South Sea* and his rival for power, had been beheaded, and now the new ocean was Pedrarias' to explore.

But to carry out his plans, Pedrarias needed a coastal city with a suitable harbor that would serve as a crossroads base for the lands he hoped to discover to the south. He undertook the exploration of the Pacific coastline of the Isthmus by sea and by land. Pedrarias himself set out by ship and after taking possession of the Pearl Islands anchored off Taboga. Anxious for news of the land force of 300 men commanded by his lieutenant, Gaspar de Espinosa, he dispatched a search party to the mainland that soon brought back the news that the men were at the fishing hamlet of Panama.

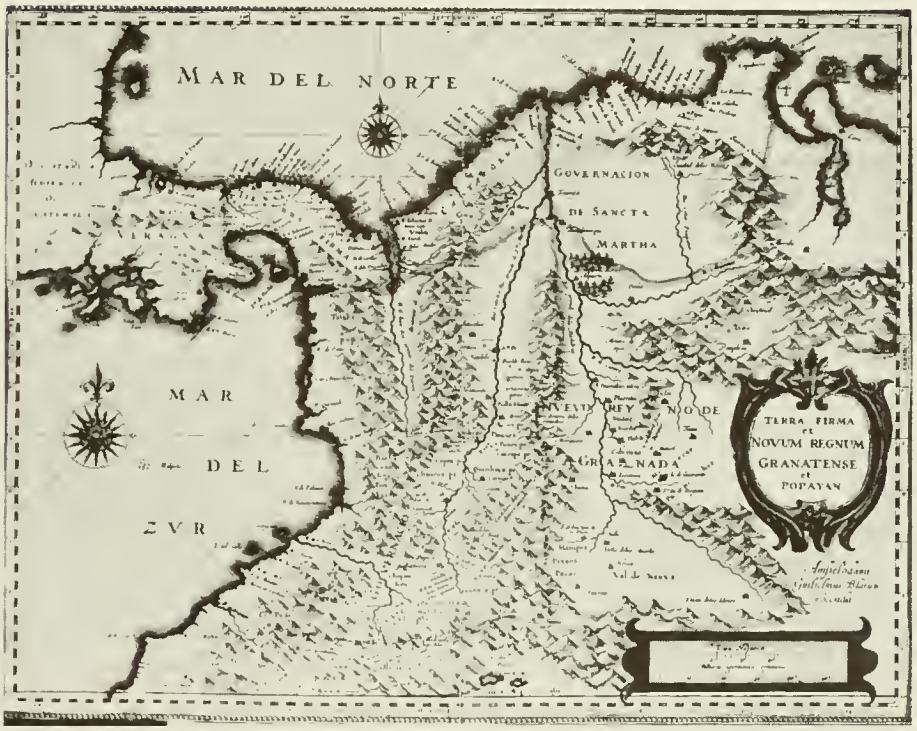
Pedrarias hurried to the mainland to take council with his captains. Among them were Francisco Pizarro and Diego de Almagro, who were to conquer Peru, and Hernando de Soto, who was to land in Florida 20 years later.

The decision: to establish a city at the site of the Indian hamlet of Panama.

Three Leagues

The site for the city, measuring 3 leagues, was cleared about half a league from the hamlet itself to take advantage of a small harbor.

(See p. 22)



THE SPANISH MAIN—From a map published in Amsterdam about 1630, the area shows much of the lands that today are Colombia. The Spanish Main was the area in the Atlantic just above Terra Firma, or Panama. Old Panama was destroyed by pirates in 1671.

City's First Settlers—100 Spanish Soldiers

(Continued from p. 21)

On August 15, 1519, on the feast day of Our Lady of the Ascension, the City of Panama was founded by Pedrarias. The founding of Lima, Peru, was 16 years away; that of Bogota, Colombia, 19; that of New Amsterdam—the future New York—94.

The fledgling city's first settlers were 100 Spanish soldiers.

"The chosen site," one of Panama's foremost historians, Juan B. Sosa, has written, "was undoubtedly quite apparent for the purposes that drove the Governor of Castilla del Oro. Surrounded by a green plain, it had, besides a more benign climate than Santa Maria, the advantage of its position in the southeastern and narrowest part of the country, which was ideal for the projects of new conquests across the South Sea, at the same time offering better prospects for traffic, trade and agriculture in the future."

On September 15, 1521, 2 years later, the city obtained its royal charter and a coat of arms.

Conquest

Pedrarias did not live to see the city he founded flourish. The one event that was to set the historical seal of crossroads upon the City of Panama for all times—the conquest of Peru—was accomplished 3 years after his death. He died in 1531, at the age of 91, in Managua, Nicaragua, where he had moved 4 years earlier upon being appointed Governor of Nicaragua.

Now it was 1669. Past were the days when the population of the City of Panama had dwindled to 32 or 33 Spaniards—the handful that for diverse reasons had not been drawn by the magnet of riches in Peru. Now it was a city of 400 houses, "which though of wood, are of good appearance," as one chronicler wrote. There were 500 Spanish inhabitants—sometimes as many as 800, depending upon traffic through the city—and 3,000 Negro slaves toiled within the city's environs.

What had happened in that first half-century is told in the words of historian Sosa:

Builds Reputation

"The discovery and boom of the lands to the South and in Central America; the traffic across the Isthmus that gave occasion to the departure every year of fleets, sometimes numbering 40 vessels; the considerable hauling of foods; the business and trading in the city and the other coastal settlements on the Atlantic; the Cruces and Nombre de Dios trails, busy with the coming and going of numerous mule trains and gangs of burden-bearing slaves, and the Chagres plied by barges transporting travellers, goods and valuables; the working of the Veraguas mines in which more than 2,000 laborers were employed; the pearl trade in the Royal Pearl Islands which keeps the owners and crews of 30 brigantines engaged in fishing, all contributed to enable Panama, in the space of slightly more than half a century, to attain the reputation as one of the principal cities of the new world, the emporium and center of trade between the Spanish metropolis and its possessions in the Pacific. . .

"The layout of the city was quite adequate: straight streets, wide for the traffic of pedestrians and riders, all paved with round stones from the sea shore; the houses well built, most one story high, with balconies, wooden grill work on the windows and a wide door for access inside, all with rooms well distributed and with such comforts as were required by the climate and as afforded by the owner's means. . ."

Destroyed

The very wealth of the city—symbolized by its reputation as the "Cup of Gold"—brought on its destruction in 1671. In the 152 years since its establishment, the city had survived three major conflagrations, one disastrous earthquake, at least four civil revolts, one slave uprising and one attack by pirates. It had risen to the status of See of the Civil and Ecclesiastical Administration of the Mainland Kingdom.

But nothing availed against Sir Henry Morgan, the English buccaneer. After storming Fort San Lorenzo, at the mouth of the Chagres, Morgan advanced on the City of Panama. The end, by sword and by fire, came on Wednesday, January 28, 1671. The city of 1,000 houses and about 10,000 inhabitants was laid waste.

Vasco Núñez de Balboa
Discovers the Pacific

A Spanish force, asembled to defend the Crown's possessions, landed at Portobelo in late 1671, under command of Don Antonio Fernández de Córdoba y Mendoza, who came invested as president, governor, and captain general of the mainland. Fernández de Córdoba lost no time proposing to the Crown the transfer of the city to the nearby Ancon site, which offered better defense facilities. His proposal received royal approval and a charter was issued for the new City of Panama.

On Saturday, January 21, 1673, on the feast day of Saint Ines, Virgin and Martyr, the transfer of the city from its old to its new site was carried out with full ceremony.

Center of Trade

Today, halfway through its fifth century of existence, the City of Panama still is "one of the principal cities of the New World, the emporium and center of trade. . . ."

But instead of the trade between the Spanish metropolis and its possessions in the Pacific of 400 years ago and the gold- and silver-laden galleons that came from fabulous Peru to disgorge their treasures at its shores, it is the trade of the world and the ships of many nations, laden with the sinews of progress, that flow past it, entering or leaving the Panama Canal.

It is also a crossroads in the air age—a major gateway for travel to points north, south, east, and west. At Tocumen International Airport, approximately 32,000 planes landed and took off and 174,000 passengers arrived and departed in 1968.

The City of Panama is turning into a municipal giant, plagued with the problems of growth—quick growth. Its population, now nearing 400,000, lives in 85,000 dwellings, consumes 30 million-plus gallons of water daily, requires 1,089,000 kilowatts of electricity daily to operate, uses nearly 55,000 telephones to communicate, moves on the wheels of 40,000 vehicles making a total of 200,000 trips daily, and generates two-thirds of the Gross National Product, about $600 million.

All this boils down to an annual rate of growth of 10 percent.

History Congress

The week of August 10 to 17 has been set aside by the Panamanian Government for the observance of the 450th anniversary of the capital city. The highlight is to be a History Congress to which delegates from the Central American countries, Mexico, Colombia, Venezuela, Ecuador, Peru, and Spain are being invited. The conclave will examine the geography, history, physical structure, institutions, economy, society, importance and future of the city. There will be ceremonies amid the ruins of Old Panama and concerts, art displays, theatrical presentations, folklore festivals, a sports parade and literary contests.

If the city's growth in the past few decades has been impressive, the outlook for the future is astonishing.

"The Plan of Panama," drawn for the Institute of Housing and Urban Development (IVU) of the Panamanian Government by De Diego y Fábrega, a firm of urban consultants, envisions the city in 1995. On the basis of orderly tendencies of growth, the planners foresee a vast metropolitan area shaped like a half-moon, with the Pacific coast as the base and Plaza 5 de Mayo—the city's present major commercial center—as the hub.

Expected Growth

One figure alone provides an idea of the magnitude of the city's expected growth in the next quarter century and the problems this will pose: The estimated population for the metropolitan area in the year 2,000 is 1,220,000 inhabitants.

This metropolis will trace its lineage to the tiny settlement 3 leagues long founded close to an Indian fishing hamlet 450 years ago this month. Founded in hope and destroyed in adversity, the city rose again to overshadow its past. Of the original site, again in the words of historian Sosa, "there remained for the coming generations, clear evidence of its importance in the ruins of its buildings, in the arcades of its bridges and cisterns, in the superb tower of the Major Church which still bears, straight and elegant, the weight of the centuries on its powerful structure."

At the base of that tower, a bronze plaque, placed there by Court Santa Maria 497, of the Catholic Daughters of America, contains a summary of the history of the cathedral. Its final, eloquent paragraph serves as the epitaph for the old City of Panama: "These ruins call forth admiration, for amid the profound silence of death they recall human glory and riches gone forever."

WIDENING TRANSISTHMIAN—A 4½-mile section is being widened in the heart of Panama City to relieve increasing traffic.

FOR MUTUAL BENEFIT

PANAMA—CENTER of the World; Heart of the Universe. The phrase sums up this country's greatest boon—a privileged position relatively equidistant from the great land masses of the world.

In the process of the evolution of the Isthmus, a unique international partnership developed at the turn of this century between the United States and Panama in fulfillment of a paramount mission of service to the world. For more than half a century, citizens of both nations have worked together effectively in operating the Panama Canal—a vital international utility that plays an influential role in the progress of many nations by speeding the flow of world commerce in all directions. Both nations have endured hardships and sacrifices as a result of that partnership.

The Gains

But there have been benefits for both countries, too. Elsewhere in this issue are set forth some of the gains the United States has derived from the Panama Canal. Its partner—Panama—also has received substantial material advantages from the presence of the waterway in its territory which played and still plays an important part in the nation's economy.

In 1968, the Panama Canal represented for Panama, $149 million—in salaries and wages for Panamanians employed in the Canal Zone; in retirement and disability payments; in direct purchases by U.S. agencies; from private companies and contractors operating in the Canal Zone; in personal expenditures by Canal Zone residents; and in the annuity paid by the United States.

Panamanian revenues generated by the Panama Canal have been increasing steadily in the past years. The 1968 figure, for example, was over $14 million higher than that for 1967.

Annual Payroll

One of the major benefits for Panama, of course, is the employment of its citizens with the Canal organization. Nearly 12,000 of them at present draw an annual payroll of nearly $47.4 million. All Panamanian citizen employees in the Canal organization now share in most of the benefits of U.S. Federal employment. For instance, since 1966 the minimum wage law has applied to the Canal Zone, making the current minimum pay for any government employee $1.30 an hour and providing for annual increases which will be raised to $1.60 in 1971.

Practically every phase of Panama Canal operations is reflected dollarwise in Panama; for instance, construction and maintenance projects for the waterway in the 3-year period from 1966 to 1968 resulted in an average annual expenditure of $9.5 million in Panama for materials and services.

Residents of the Canal Zone made expenditures of $33.9 million in Panama last year.

Panama Railroad

Some installations in the Canal Zone, while designed primarily for the operation of the Canal, also serve Panama. The centenarian Panama Railroad, which played such a key role in the independence of Panama in 1903, supplements communications between the country's two principal cities, transporting passengers, mail and cargo. The Canal organization has 13 docks and piers which total 3.3 miles of berthing space for operations at Cristobal and Balboa. These facilities are utilized by Panama for its international commerce. Medical institutions and services provided by the Panama Canal organization serve its employees and their dependents, American and Panamanian alike.

Unquestionably one of the vital benefits for Panama from the construction of the Panama Canal was the massive sanitation effort begun by the United States at the outset of the building of the waterway and carried on unceasingly for the past seven decades. It has significantly contributed to making Panama City and Colon among the healthiest cities in the world.

The opening of the Panama Canal fulfilled the promise of service to mankind which is emblazoned on the Panamanian coat of arms—PRO MUNDI BENEFICIO, For the Benefit of the World.

PANORAMA OF BENEFITS—Nearly all Panamanian imports come through Canal Zone ports of Cristobal and Balboa which combined have 3.3 miles of berthing space. Here, five ships are moored at Balboa. At upper left is the $20 million Thatcher Ferry Bridge linking Panama City and Canal Zone with the Interior. The bridge is an important connection in the Pan-American Highway.

ANNIVERSARIES

(On the basis of total Federal Service)

MARINE BUREAU

Emmanuel A. Burton
Lead Foreman Painter
Benito E. Sykes
Leader Painter
Edmund Dantes
Linehandler (Deckhand)
Charles M. Inniss
Time and Leave Clerk

TRANSPORTATION AND TERMINALS BUREAU

Clyde W. Carew
Supervisory Accounts Maintenance Clerk
Arthur H. Peter
Supervisory Cargo Checker

SUPPLY AND COMMUNITY SERVICE BUREAU

George Kirton
Guard
Ivan S. Brown
Meat Cutter
Bertram I. Walters
Supervisory Supply Clerk (Typing)

CIVIL AFFAIRS BUREAU

Alfred E. Osborne
Director-Assistant Superintendent and Director Latin American Schools

HEALTH BUREAU

Rosan R. Trowers
Medical Aid (Sterile Supplies)

OFFICE OF THE COMPTROLLER

Egen W. Mike
Bookkeeping Machine Operator
Maenner B. Huff
Supervisory Systems Accountant
B. D. Licorish
Accounts Maintenance Clerk

MARINE BUREAU

Paul A. Kunkel
Leader Blacksmith (Heavy Tires)
Francis E. Westley
Boilermaker Maintenance
Alphonso Gooding
Toolroom Mechanic (Maintenance)
Alvah W. Simpson
Pipefitter (Maintenance)
Simon P. Blackburn
Machine Operator
Rupert Gill
Boilermaker (Maintenance)
Carlos Lopez
Carpenter
James E. Pomare
Seaman (Launch)
Oreste Madrigal
Motor Launch Operator
Reginald P. Ramsey
Leader Seaman
Morris Campbell
Painter (Maintenance)
C. V. McPherson
Leader Linehandler (Deckhand-Boatswain)
Clarence G. Webley
Linehandler (Deckhand)
Luther V. Gordon
Motor Launch Operator
Lester Hayles
Lead Foreman (Operations Lock Wall)
M. P. Thompson
Helper Lock Operator
Truman H. Hoenke
Supervisory General Engineer
Glenn C. Dough
Shipwright
Bonifacio Mece
Linehandler
Vivian E. Bonus
Helper Lock Operator
Vincent S. Belgrave
Motor Launch Operator
Manuel E. Benitez
Sailmaker
Elton A. Jones
Carpenter

TRANSPORTATION AND TERMINALS BUREAU

Harold A. Goodrich
Brakeman
John F. Frensley, Jr.
Yard Locomotive Engineer
Robert H. Rathgeber
Lead Foreman (Fuel Operations)
Wilfred C. Werner
Chauffeur
Vivian S. Deane
Fabric Worker
Maurice A. Long
School Bus Driver
Theodore Young
Linehandler
Norman E. J. Demers
Transportation Operations Officer
George A. Black, Jr.
Administrative Officer (Water Transportation)
Vincent E. Lowe
Stevedore
Adolph Manuel
Stevedore
Sylvester L. Morgan
Leader Maintenanceman (Dock)
John Inniss
Maintenanceman (Dock)
C. A. Leslie
Brakeman

SUPPLY AND COMMUNITY SERVICE BUREAU

Sylvester E. Smart
Clerk
Carlos Valiente
Leader Garbage Collector
Reggie A. John
Sales Store Clerk
Simeon Pinnock
Laborer (Heavy)
Clarence N. Brin Y.
Supervisory Distribution Facilities Assistant
Percival U. Johnson
Guard
Charles H. Blades
Service Station Operator
John K. Mall
Gardener
Lovell L. Ledgister
Counterman

ENGINEERING AND CONSTRUCTION BUREAU

John E. Jennison
General Foreman Pipefitter
Manuel Moreno
Painter
David J. Morgan
Helper Cable Splicer
Herbert A. Waith
Maintenanceman (Dock)
Enrique Borbua
Helper Welder
Juan B. Quintana R.
Wharfbuilder
Edward R. Hayle
Seaman
Elias Valdiviezo
Helper (General)
Edward E. Kennerd
Lead Foreman Machinist Maintenance
Ralph J. Dugas
Lead Foreman Pipefitter
Percival Archer
Electrician (Lineman)
Livingston C. Best
Painter
Augustine F. Morgan
Leader Sandblaster
Clifton A. Nurse
Helper Electrician
Adolfo M. Ruiz
Oiler (Floating Plant)
Richard R. Potter
Supervisory Electrical Engineer (General)
Victor E. Bailey
Guard
Richard J. Mahoney
Supervisory Construction Representative (Building and Utilities)
Roger M. Howe
Supervisory General Engineer
Peter A. Warner
Chief Foreman (Public Works)
Vicente Rosales
Surveying Aid
William E. Dyar
Leader Seamen
Morty K. Blanchard
Leader Seamen
Gregorio Martinez
Oiler (Floating Plant)
Elias Sanchez
Leader Laborer (Cleaner)

(See p. 31)

They Keep The Ships Moving

The "silent canal" requires 16,000 dedicated men and women to keep the thousands of ships a year moving smoothly through the Isthmian waterway. Like many organizations, it's mostly a behind-the-scenes operation. The persons who don't steer the ships, handle the lines, or operate the locks—such as the lighthouse keepers 300 miles away at Quita Sueño Bank in the Atlantic, and the woman who is the official rainfall observer at the historic town of Portobelo—contribute as much as any of the others.

SEABIRDS, CANAL MEN—Maintenance is carried out on the lighthouse at Fraile del Sur Island in the Pacific about 6 miles off the Azuero Peninsula. It is typical of lighthouses marking the Canal route. Men of Aids to Navigation Branch service it periodically.

"THE PANAMA CANAL is the silent canal," Viscount Craigavon, former liaison officer for the P&O Lines, once told friends in one of the swank bars aboard the liner *Oriana* as it transited the waterway.

The shipping officer thus summed up his admiration for the operation of the Canal—efficient, fluid, smooth. None of the noise and the bustle found in other waterways.

By calling the Panama Canal "the silent canal," Viscount Craigavon paid tribute to the Canal personnel—"the men and women who move the ships" in the words of Canal Zone Governor W. P. Leber.

The casual observer of a ship in transit through the Panama Canal seldom realizes the number of persons and the diversity of skills required to operate the waterway.

Duties

The Canal employs 16,000 people—nearly 12,000 Panamanians and about 4,000 U.S. citizens who perform an almost inconceivable variety of duties. The Personnel Bureau lists 1,800 position titles—from gardeners to surgeons.

Panama Canal employees are covered by hospital insurance and retirement systems. In addition to the medical installations in the Republic of Panama, there are two general and two specialized hospitals in the Canal Zone.

When the Canal operations began, practically all the personnel had to come from outside. But even from the beginning, the administration placed emphasis on the training of local labor. Combined with the educational advances in the Republic of Panama, this has made possible impressive achievements in the past decade. Non-U.S.-citizen employees, most of them Panamanians, have increased 34 percent from 8,946 in 1959 to 11,964 today. Their hourly average salary in 1959 was 80 cents; today it is $1.86. Their total payroll 10 years ago was $17.5 million; today it amounts to nearly $47.4 million a year.

The Panama Canal is conducting a number of programs to assure that its personnel requirements will be met in the years ahead. These programs are constantly being enlarged.

Apprentices

Of particular pride to the Canal administration is its training program for young men just entering the labor market. Almost from the earliest days, the Canal organization has provided training for apprentices in various trades—electricians, lathemen, radio mechanics, automobile mechanics, welders, structural iron workers, and shipfitters. After 4 years of training, apprentices are certified as journeymen and qualified to work in the Canal shops. At present, 225 high-school graduates are enrolled in the apprentice program.

In the past few years, four other programs have been added: one to train journeymen helpers; another to train office workers; a third for students of the Universities of Panama and Santa Maria La Antigua, under which participants gain practical experience with the Canal in their field of study; and a student-aide program which employs both university and high-school students during the vacation months. More than 400 young people are benefiting from the latter program.

There are unusual job opportunities with the Canal which call for unique skills. High on the list are the pilots who put the ships through the waterway. Long navigational experience is one of the requirements for pilots-in-training; hence, local recruitment for this position has not been possible.

Another Panama Canal position requiring unusual skill is that of admeasurer, whose job is to determine the capacity of transiting ships for fixing the transit tolls. Then there are the tugboat masters, ever ready to assist the big ships in the waterway. Among the latter are several Panamanians, including Capt. Jorge A. Panay whose service record goes back 23 years. He was trained by the Canal organization and advanced through various positions to his present job.

Key Men

Towing locomotive operators on the locks also are among key personnel in the Canal. Many ships fit into the locks with but inches to spare; it is the towing locomotive operators, executing the orders from the pilot on the bridge, who keep the vessels from hitting the thick walls. There are quite a few Panamanians among them. One is Santiago Nemesio Kelly, a one-time press photographer, who has found a future in the great family of Canal employees.

Boatmen and linehandlers also perform unusual duties in the Panama Canal. They handle the thick towing cables between the vessels and the locomotives. Their skill has been honed by long years of work. Most of these men are Panamanians, many of whom retire only because they have reached the maximum retirement age of 70.

The Marine Bureau, through its Traffic Control office, directs the movement of ships through the waterway and the operation of the locks. It also runs the Mount Hope industrial complex on the Atlantic side, including shops, shipyards, and a large drydock. Among the

(*See p. 28*)

PROBLEM SOLVERS—Three members of the Engineering Division discuss a problem over a drafting table. From left are: Joaquín Ponce, Manuel López Esplá, and Ricardo Castillo.

A 700-Mile Route From Ocean to Ocean

(Continued from p. 27)

many Panamanians who work in Mount Hope is Carlos A. Alvarado, a naval engineer and mechanic who graduated from the University of Buenos Aires, Argentina, with a major in naval architecture.

One of the Panama Canal's most important units is the Engineering and Construction Bureau. Many of its employees are Panamanians, some in high positions. Rubelio Quintero heads the electrical engineering staff and Julio E. Cordovez, an architect who, although number three man in the Architectural Branch, has served as acting chief.

One of this bureau's divisions is closely linked with the day-to-day operation of the Canal. The Dredging Division is responsible for keeping the waterway and its harbors and bays free of obstacles and at the required depth. But it does more than just dredge. Its Aids to Navigation Branch, for example, sees to it that the beacon lights and buoys marking the Canal route are in operation at all times. International shipping circles refer to the Panama Canal as one of the best lighted waterways in the world.

The Panama Canal is generally described as being 50 miles long, from deep water in the Pacific to deep water in the Atlantic. But the Canal route proper, extending from the Caribbean approaches to the Pacific gateway, actually covers some 700 miles. It starts at Quita Sueño Bank, 300 nautical miles north of Cristobal, and ends in the Pacific on Jicarita Island, 225 miles southwest of Balboa Harbor, on one side, and at San Jose Island Light, in the Pearl Islands 60 miles south of Balboa, on the other.

Hazardous

The work of the men in the Aids to Navigation Branch assigned to the first three beacon lights on the Caribbean section of the route is hazardous. The lights are located on Quita Sueño, Serrana, and Roncador banks. Quita Sueño (Take Away Sleep) derives its name from the fact that in the days of sailing vessels, no master dared go to

ROCKY SHORE—Four men carry a 225-pound gas tank after disembarking on an island along the Canal route where an automatic light signal operates. The men of the Aids to Navigation Branch must be experienced seamen.

GROWTH CONTROL—The fight against aquatic vegetation never ends in the tropical waters of the Panama Canal. These three men of the Dredging Division are using chemical herbicides to battle the abundant plant life.

sleep until his ship was past the treacherous banks. Its shoals, just below the surface, lie in the spawning grounds of Caribbean hurricanes. The Aids to Navigation Branch, headed by Arnold S. Hudgins, maintains the automatic beacon lights on each of the banks, servicing them several times a year. Time and again, his men have had to have to for as long as a week before coming close to the treacherous reefs.

Ship Graveyard

On the Pacific route to the Panama Canal is Cape Mala, 90 miles southwest of Balboa. The Cape, a ship graveyard for many years because of its strong cross-currents and reefs, lies squarely on the Canal route. A large lighthouse was built there in 1914. It is tended by five employees residing in the nearby town of Pedasí, in the heart of central Panama's farm and cattle country.

Many Panamanians hold important positions in the Dredging Division. Engineer Hernan Barsallo is one of them. His duties include projecting specifications for new capital equipment and modifications for existing

(See p. 31)

BUOY CHIEF—Arnold S. Hudgins, chief of the Aids to Navigation Branch, checks an inspection list during an overhaul of these big buoys before they are returned to their positions in the waterway.

CANAL COMMERCIAL TRAFFIC BY NATIONALITY OF VESSELS

Nationality	Fiscal Year 1969					
	1969		1968		1961-65	
	No. of transits	Tons of cargo	No. of transits	Tons of cargo	Avg. No. transits	Avg. tons of cargo
Belgian	109	162,939	109	275,042	46	168,966
British	1,460	11,907,943	1,453	11,363,599	1,294	8,292,285
Chilean	98	685,999	114	691,186	120	849,621
Chinese (Nat'l.)	127	899,702	107	735,947	81	594,921
Colombian	184	570,718	202	433,024	256	408,588
Cuban	43	437,459	31	331,805	3	14,596
Cypriot	41	395,688	21	132,205	----	------
Danish	393	2,036,969	434	2,538,773	307	1,548,545
Ecuadorean	66	84,268	161	169,308	42	49,491
Finnish	51	357,976	38	216,472	24	107,205
French	247	1,130,240	204	1,015,648	144	771,293
German, West	1,162	4,369,229	1,279	4,974,583	1,122	3,391,774
Greek	564	6,442,482	444	4,467,674	632	6,180,888
Honduran	202	127,178	199	116,047	197	153,814
Israeli	92	655,530	113	632,923	65	253,130
Italian	273	1,699,982	252	1,881,085	190	1,126,250
Japanese	1,072	9,230,388	1,036	8,191,057	835	4,871,840
Liberian	1,569	24,347,790	1,543	21,253,720	951	9,348,846
Mexican	115	516,629	58	177,468	25	77,779
Netherlands	479	2,560,612	469	2,014,299	621	2,793,040
Nicaraguan	54	92,681	74	118,874	52	80,143
Norwegian	1,325	14,226,497	1,498	16,409,131	1,436	10,931,401
Panamanian	661	3,049,676	519	2,779,659	461	1,968,519
Peruvian	174	807,836	170	780,694	119	547,814
Philippine	91	500,703	94	413,567	70	310,866
South Korean	40	302,444	40	171,861	10	44,398
Soviet	104	677,186	98	572,292	23	164,686
Swedish	487	3,150,283	466	3,036,667	363	2,157,223
United States	1,549	7,735,182	1,647	8,594,846	1,708	10,191,486
All Others	318	2,228,923	326	2,060,709	138	713,501
Total	13,150	101,391,132	13,199	96,550,165	11,335	68,112,909

MONTHLY COMMERCIAL TRAFFIC AND TOLLS

Vessels of 300 tons net or over—(Fiscal years)

Month	Transits			Cross tolls* (Thousands of dollars)		
	1969	1968	Avg. No. Transits 1961-65	1969	1968	Average Tolls 1961-65
July	1,122	1,177	960	7,089	7,400	4,929
August	1,109	1,117	949	7,362	6,751	4,920
September	1,115	1,023	908	7,473	6,370	4,697
October	1,138	1,048	946	7,472	6,754	4,838
November	1,103	1,041	922	7,279	6,672	4,748
December	1,119	1,100	946	7,571	7,133	4,955
January	958	1,094	903	6,715	6,916	4,635
February	875	1,055	868	5,780	6,686	4,506
March	1,135	1,132	1,014	7,616	7,027	5,325
April	1,168	1,132	966	7,526	7,300	5,067
May	1,200	1,168	999	8,109	7,493	5,232
June	1,108	1,112	954	7,466	7,405	5,013
Totals for fiscal year	13,150	13,199	11,335	87,458	83,907	58,865

* Before deduction of any operating expenses.

TRAFFIC MOVEMENT OVER MAIN TRADE ROUTES

The following table shows the number of transits of large, commercial vessels (300 net tons or over).

Trade routes	Fiscal Year, 1969		
	1969	1968	Avg. No. Transits 1961-65
United States Intercoastal (including Hawaii)	425	467	520
East coast United States and South America	1,345	1,547	2,355
East coast United States and Central America	684	653	500
East coast United States and Far East	3,054	3,040	2,220
East coast United States/Canada and Australasia	395	398	321
Europe and West Coast of U.S./Canada, Hawaii	1,012	1,012	1,009
Europe and South America	1,285	1,372	1,236
Europe and Australasia	447	451	397
All other routes	4,503	4,259	2,777
Total traffic	13,150	13,199	11,335

United States

(Continued from p. 11)

of the total Canal tonnage. And this figure does not include U.S. Government ocean traffic which came to nearly 8.5 million tons.

The breakdown of this traffic to and from the United States is: 21.7 million tons of imports; 36.1 million tons of exports, and 4.7 million tons intercoastal trade including Alaska and Hawaii.

Total U.S. waterborne imports for fiscal year 1968 amounted to 407 million tons; exports, 192 million tons for a total of 599 million tons of goods carried by oceangoing vessels to and from the United States, not including intercoastal traffic.

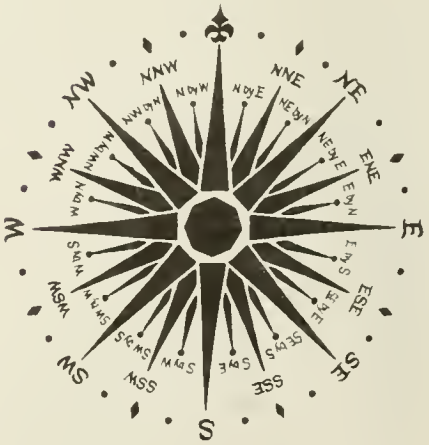
These statistics show that the Canal handled 9.6 percent of all U.S. imports and exports.

Despite the growing number of ships that cannot use the Canal because of their size (mostly in the supertanker class), Canal business is not expected to decrease except for temporary periods during economic slumps.

It is expected, however, that settlements will be made in Vietnam and the Suez Canal within the next few years which will cause a short-term drop in cargo and a leveling off of toll revenue and transits until long-term growth offsets the decline.

The Panama Canal annual report for fiscal year 1968 said succinctly of the Canal's future: "Over the long term all studies show nothing but growth in most aspects of Canal traffic."

This growth can be tied in directly with the ever expanding world economy and trade with the United States.



Anniversaries

(Continued from p. 25)

Dagoberto Illueca
Helper Electrician
Cyrus Small
Laborer (Cleaner)
Norbert H. Marquis
Carpenter
Alfred Hylton
Painter
Ralph V. Morris
Painter
Gladstone A. Cooper
Carpenter
Stanley R. Price
Leader Carpenter
Wilmoth A. Green
Pipelayer
Luther S. Buchanan
Surveying Aid
James D. Maloney
Helper Plumber
Hubert Johnson
Boiler Tender
Ulrick D. Bynoe
Laborer (Heavy)

CIVIL AFFAIRS BUREAU

Winfield S. Ireland
Special Clerk
Helen G. Wallace
Teacher Elementary, U.S. Schools
Oscar A. Murrell
Recreation Aid
William J. Cronan
Police Private
Henry C. Deraps
Police Lieutenant
Jesse Y. Bunker
Police Private
Richard P. Patton
Police Private
Emily E. Butcher
Supervisor (Music—Latin American Schools)

HEALTH BUREAU

Coral A. Strickler
Supervisory Clinical Nurse
John R. Thomson
Hospital Administrative Officer

Personnel

(Continued from p. 29)

equipment. Another is Ricardo A. Pasco, an agronomist with degrees from the Universities of Arkansas and Wisconsin.

Among those working outside the Canal Zone proper is Mrs. Valentina O. Pérez, a rainfall recorder in Portobelo, the historic town 10 miles northeast of the Atlantic entrance to the Canal. The average annual rainfall there is 159 inches; the all-time high, 237 inches. Portobelo holds the world's record for 5-minute rainfall: 2.47 inches on November 29, 1911.

PRINCIPAL COMMODITIES SHIPPED THROUGH THE CANAL

(All cargo figures in long tons)

Pacific to Atlantic

Commodity	Fiscal Year 1969		
	1969	1968	5-Yr. Avg. 1961-65
Ores, various	4,349,108	4,708,073	1,009,694
Boards and planks	3,630,798	2,350,325	N.A.
Iron and steel plates, sheets and coils	2,930,096	1,551,974	N.A.
Sugar	2,567,471	2,734,739	2,296,584
Fishmeal	1,975,409	1,700,472	N.A.
Food in refrigeration (excluding bananas)	1,400,249	1,397,245	898,880
Metals, various	1,265,586	1,282,043	1,187,362
Pulpwood	1,241,042	973,435	517,629
Bananas	1,160,903	1,329,729	1,161,381
Petroleum and products	1,088,430	1,374,920	1,805,862
Iron and steel manufactures, miscellaneous	1,056,857	1,762,967	N.A.
Plywood and veneers	940,225	658,820	N.A.
Potash	709,973	643,940	24,519
Wheat	707,464	692,440	1,186,662
Canned food products	607,750	709,824	957,472
All others	11,008,964	11,319,100	19,648,535
Total	36,640,325	35,190,046	30,694,580

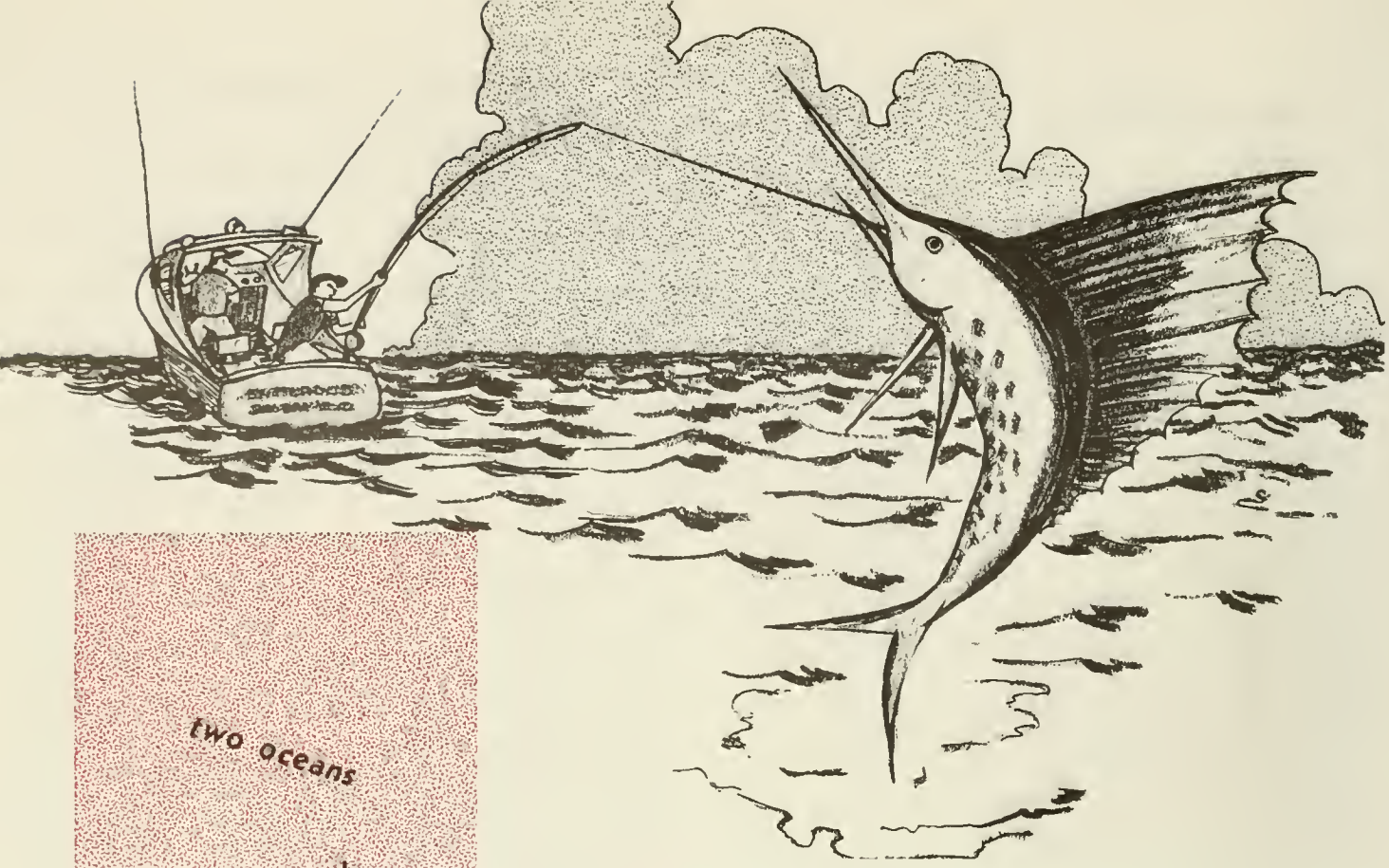
Atlantic to Pacific

Commodity	Fiscal Year 1969		
	1969	1968	5-Yr. Avg. 1961-65
Coal and coke	16,260,931	13,142,764	6,061,195
Petroleum and products	15,796,516	15,884,387	11,384,781
Phosphates	4,661,919	4,228,043	2,137,487
Corn	3,057,082	2,831,285	1,501,869
Metal, scrap	2,640,903	2,800,352	2,663,773
Soybeans	2,500,502	2,494,783	1,449,114
Ores, various	1,845,458	1,825,243	309,593
Sorghum	1,345,244	1,159,174	N.A.
Metal, iron	1,228,363	2,084,123	198,647
Sugar	1,073,774	988,603	1,011,013
Wheat	968,434	916,662	565,795
Chemicals, unclassified	816,738	747,568	657,500
Paper and paper products	813,810	720,020	428,942
Fertilizers, unclassified	626,176	556,097	388,007
Autos, trucks and accessories	594,647	543,216	333,328
All others	10,520,310	10,437,799	8,327,284
Total	64,750,807	61,360,119	37,418,328

CANAL TRANSITS — COMMERCIAL AND U.S. GOVERNMENT

	Fiscal Year 1969				
	1969			1968	Avg. No. Transits 1961-65
	Atlantic to Pacific	Pacific to Atlantic	Total	Total	Total
Commercial vessels:					
Oceangoing	6,537	6,613	13,150	13,199	13,348
Small *	321	262	583	571	547
Total Commercial	6,858	6,875	13,733	13,770	13,895
U.S. Government Vessels: **					
Oceangoing	754	622	1,376	1,504	250
Small *	68	51	119	121	157
Total commercial and U.S. Government	7,680	7,548	15,228	15,395	14,302

* Vessels under 300 net tons or 500 displacement tons.
** Vessels on which tolls are credited. Prior to July 1, 1951, Government-operated ships transited free.



two oceans

islands

gardens

golden frogs

square trees

fishing

hunting

Panama

PANAMA IS SMALL, old, and most of the year, green, lush, sundrenched, rain-washed and beautiful. As a residential area or as a crossroads for those who have come and gone since the Spanish conquest more than four centuries ago, it has meant many things to many people. To persons who today live and work on this narrow neck of land that joins two massive continents and separates two mighty oceans, Panama is home—a happy home.

In its essential aspects, Panama has much in common with other Latin American nations, sharing a common cultural heritage, traditions and language.

The pattern of home and community living for a U.S. citizen on the Isthmus is similar to that of an average town or city in the United States. Each resident carves out his own interests at his own pace. He works and plays at more or less the same vocations and hobbies as in the U.S., with the advantage of more leisure to pursue hobbies and sports. Usually, there are enough daylight hours after work to enjoy nine holes of golf, play two sets of tennis, go horseback riding, or do a little fishing.

The climate is tropical and the relatively high but even temperature permits year-round enjoyment of outdoor activities and water sports. The two oceans hugging the Isthmus offer swimming, boating, skin diving, surfing, water skiing and have produced record shattering gamefish. A total of 528 pleasure boats registered in the Canal Zone reflects the large number of leisure-time sailors in the community. White sand beaches stretching for miles invite sun worshipers, particularly such Pacific side beaches as Rio Mar and Santa Clara which compare with the finest in the hemisphere.

Sport Center

Panama is one of the leading sport centers in Latin America and offers such spectator sports as horse racing every weekend and on holidays. From December to February fans jam the National Stadium to watch the Panama Professional Baseball League in action. Bullfighting may be seen from January to April at the Plaza de la Macarena in suburban Panama City. The Panama Open brings some of the world's top professional golfers and attracts thousands

NATIVE DANCERS—Cuna Indians from the San Blas Islands perform a native dance for a Canal Zone audience. The women are wearing molas and wrap-around skirts.

YOUNG ANGLER—Fishing from the rocks on the Fort Amador causeway, this young angler may bring in a delicious corbina, red snapper or a kingfish mackerel.

CAYUCO RACE—Explorer Scouts paddle their cayucos through the Canal nearing the end of an annual ocean-to-ocean race sponsored by the Canal Zone Boy Scouts.

to the Panama Golf Club. Basketball games are popular, and less known by U.S. citizens is cockfighting, a spectator sport that features wagering.

Hunting

For the hunter, the primitive jungles offer a chance to stalk jaguar, ocelot, puma, deer, wildcat, and wild pig. Bird hunting enthusiasts may search out wild turkey, duck, quail, and wild dove. The entire country is a bird watcher's paradise, but the big exotic creatures are found in the deep forest.

Church, civic, fraternal and social activities form an important part of the daily life. For the men there are Masonic organizations, Elks, Knights of Columbus, veterans' organizations, Lions and Rotary, Canal Zone Pacific Power Squadron, and baseball leagues. There are judo clubs, bowling and softball leagues, gun clubs, camera clubs, theater guilds and many other social and sport groups to occupy all interested members of the community during the evening hours and on weekends.

The Balboa Women's Club and the Cristobal Women's Club, the Inter-

(See p. 34)

Panama

TABOGA—Tamarind trees provide cooling shade for strollers on beautiful Taboga Island, one of the favorite resorts near the Canal Zone for swimming and boating.

(Continued from p. 33)

American Women's Club, Order of the Eastern Star, veterans' organization auxiliaries, Pen Women, church groups, and other social and cultural organizations offer a wide range of doings for the ladies.

Many Activities

Appealing to the hobbyists are several organizations to satisfy the spare time pursuits of most enthusiasts. The Canal Zone Gem and Mineral Society, Isthmian Numismatic Club, Panama Shell Club and bottle collectors hold periodic exhibits which attract community interest. There are also opportunities to study art, music, history, archeology, and other subjects. Persons interested in pre-Columbian and colonial history of Panama and artifacts may join the Archeological Society of Panama or the Friends of the National Museum of Panama. A Canal Zone symphonette and chamber music group offer the musically inclined a chance to fulfill their interests.

Good roads permit residents to travel to most parts of Panama and on weekends and holidays many persons head for the Interior, famous for its rich, green mountains, crystal clear waterfalls and inviting beaches. A number of U.S. citizens own summer homes in a picturesque valley called El Valle de Antón, home of "golden" frogs and square trees, which provides a cool respite from the heat of the city.

Contrasts

On a long weekend, one may venture further north to Panama's province of contrasts, Chiriquí, where a short drive through varied landscapes takes us from the tropical climate of David, the principal city, to the lovely and cool mountain village of Boquete or to the breathtaking hamlets of Cerro Punta and Volcan. Here there are excellent fruits and vegetables, trout fishing, beautiful flowers and magnificent mountain scenery.

About 1 hour by car in the opposite direction from Panama City is Cerro Azul. Here a man-made lake at 2,500 feet above sea level offers boating, swimming, fishing, and other recreation. A sweeping view of the rolling green mountains and of the lake is well worth the 25-mile drive.

For a very special weekend there is Taboga, the "Isle of Flowers," a tropical resort about 12 nautical miles from the city. Here there are no honking autos nor exhaust fumes to pollute the clean sea breezes that mingle freely with the bouquet of sweet jasmine, oleander, and a myriad of wild flowers. A modern hotel, white sand beaches, and picturesque houses skirting the shore make Taboga one of the favorite resorts.

Islands

Bocas del Toro and the San Blas Islands beckon from the Atlantic side of the Isthmus. At Bocas, the climate and beaches are unsurpassed and the fishing is superb.

On the San Blas Islands, accessible by air or boat, life goes on much as it did when Columbus discovered America. The Cuna Indians live in settlements scattered through 365 islands and maintain their tribal customs and ceremonies. This is where the mola, a decorated cotton panel, embroidered, and perforated to show underlying colors, is worn by San Blas women. Two molas make a blouse with the addition of shoulder pieces and short sleeves. Many Canal Zone residents own at least one mola, not for wearing, but framed and displayed on a wall.

Rare is the American in Panama who does not partake of the merriment of Carnival which starts 4 days before Lent and closes at dawn on Ash Wednesday. Many persons also attend and participate in the many rural fairs held on the Isthmus during the dry season—usually from mid-December to mid-April.

Night life in Panama is as gay as one wishes to make it. He may dine under the stars in one of the many tropical restaurants, luxury hotels in the city or at an attractive motel-type inn located near the airport. Excellent food, both continental and native dishes are served. Panamanian dishes and seafood to match those of any country are served at open-air restaurants on the shores of Panama Bay. Home barbecues are popular on the Isthmus and beach parties are held frequently during dry season.

Gardens

For picnics, in the Canal Zone there is Summit Gardens, which has been called one of the most remarkable tropical gardens in the world. Here the visitor can enjoy nature in its fullest tropical splendor walking through the 300 acres of native and imported tropical plants. The zoo at the gardens also is an attraction for both children and adults.

The pattern of children's lives differs little from that of those in an average town in the United States. They attend schools in the Canal Zone, from kindergarten through junior college, which compare favorably with the finest in the United States. Plenty of recreational and character building activities are provided by Boy Scout and Girl Scout troops on both sides of the Isthmus.

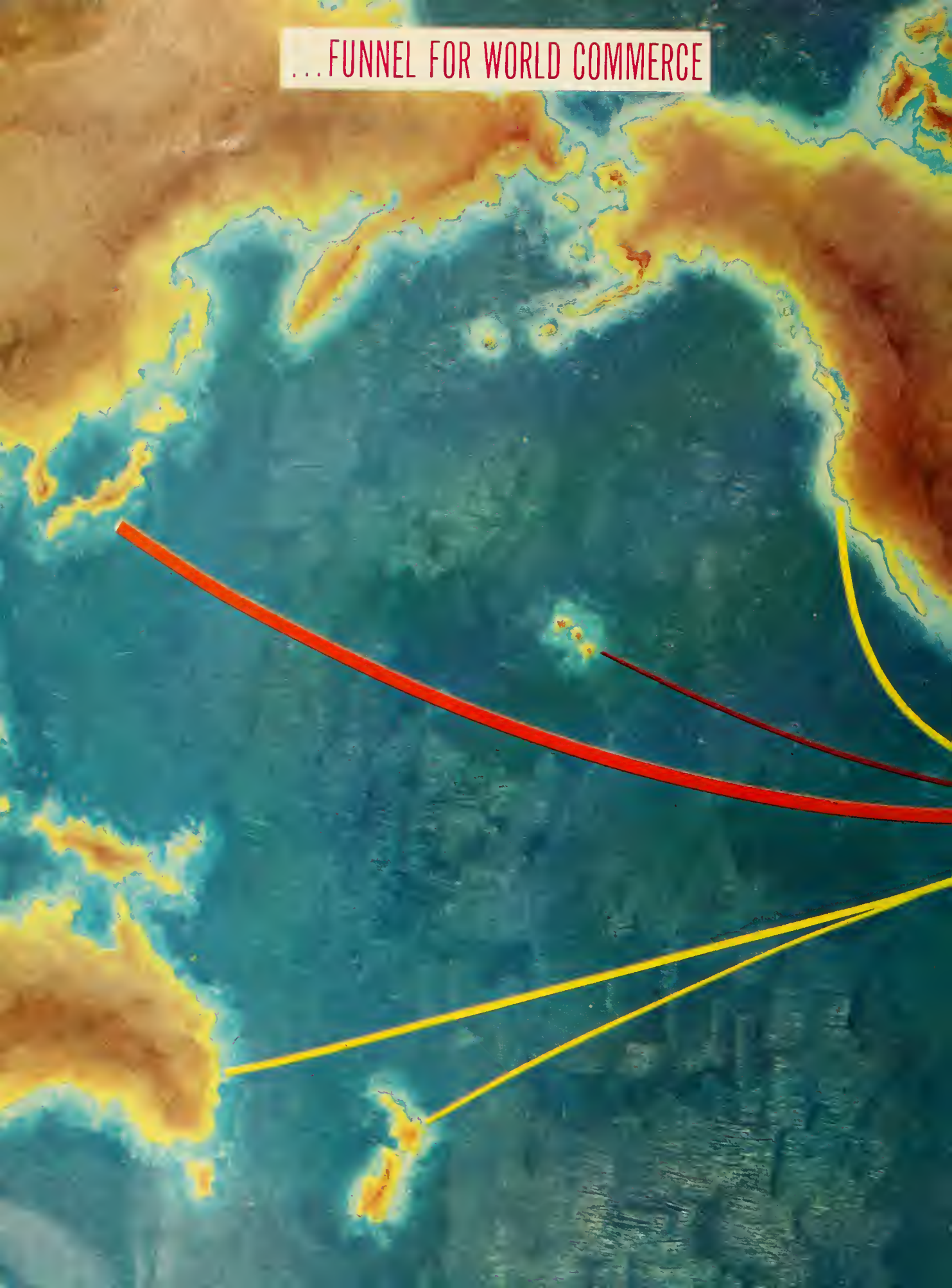
A summer recreational program sponsored by the Schools Division keeps them busy during the summer months. So does Scout camp. Several riding clubs give young horse enthusiasts an opportunity to display their equestrian skills. A large number of swimming pools accommodate children of all ages. Teen clubs serve as a gathering place for youngsters after school and after athletic events and provide a setting for evening dances. Courses in SCUBA diving, judo, swimming, weight-lifting and ballet are available at the YMCA.

Children's activities include bowling, roller skating, baseball, football, tennis, amateur theater productions, driver's training, soap-box derbies, volunteer work, Boys' State and Girls' State and working as student assistants for the Panama Canal organization. One of the most exciting events is the ocean-to-ocean cayuco (native canoe) race by the Explorer Scouts each April.

HISTORIC MOMENTS

Officially opening the Panama Canal on August 15, 1914, the old SS "Ancon" nears the midway point in her historic 50-mile journey. The ship had been used as a cement carrier during construction days, and after the Canal opened was converted as a transport for Panama Canal employees. It took the "Ancon" 9 hours and 40 minutes to make the transit from Cristobal to the Pacific Ocean.

The North German Lloyd cruise ship SS "Bremen," the largest passenger ship ever to transit the Canal, goes south through Gatun Locks February 15, 1939. At the time, the "Bremen" was the fifth largest ship in the world with an overall length of 939 feet and a beam of 102 feet. She was a tight fit, and there was some concern that the bridge, which extended more than 7 feet beyond the ship's side, would clear control house platforms. During World War II, the "Bremen" was damaged in a bombing raid while she was moored at her home port in Bremen, Germany. She was later scrapped. At the left, northbound locks are dry during a periodic overhaul.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